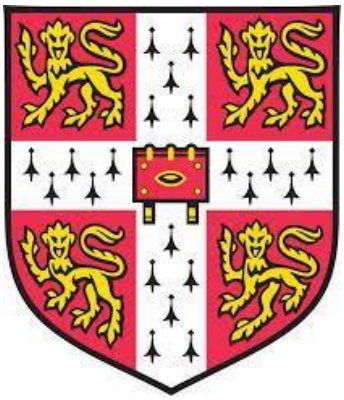
The problematic dual objective of Psychopathic Personality Disorder:

A study of in-school rule-breaking behaviour



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The problematic dual objective of Psychopathic Personality Disorder:

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Simon Robert Larmour

Research summary

Objective

This thesis aims to challenge the way in which Psychopathic Personality Disorder is defined and understood. There is a major emphasis on PPD's ability to predict (and some argue explain) criminal behaviour, which leads to a heterogeneity of individuals labelled with PPD and confusion about the direction conceptual development of the disorder takes.

Method

In total 1,057 pupils from 37 secondary schools and 2 pupil referral units from North London, Hertfordshire, and Cambridgeshire completed the questionnaire. The aim was to capture the full spectrum of morality, rule-breaking behaviour, and PPD. By having a large number of pupils complete the questionnaire, knowledge could be gained on how morality interacts with PPD in leading towards or away from rule-breaking behaviour.

Results

Morality was shown to moderate the relationship between PPD and rule-breaking behaviour, indicating that those who scored high on PPD dimensions not only varied in their levels of morality but also varied in their levels of rule-breaking behaviour. These findings support the concerns raised by Ronald Blackburn (1988) and John Gunn (1998) about the heterogeneity of individuals with PPD. Predetermined morality within the concept of PPD is only present due to its relationship to rule-breaking behaviour and criminal behaviour.

Conclusion

There is heterogeneity among those who score high on PPD on the basis of in-school rule-breaking behaviour and morality. Furthermore, PPD is better understood within an SAT framework. These findings support Ronald Blackburn and John Gunn's concerns about the value of a PPD label. To further our understanding, it is suggested that the components of PPD be viewed and understood individually.

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To my parents, Cory McAdam and Wayne Larmour

This would not have been possible without your support over the years

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Introduction

For the past few decades, research on Psychopathic Personality Disorder (PPD) has surged, due in part to its usefulness in predicting future criminal behaviour. For example, funding for PPD research by the Canadian Social Sciences and Humanities Research Council increased by roughly 600% between the 1990s and the late 2000s (Jalava, Griffiths & Maraun 2015). This has led to a significant rise in the number of studies examining this relationship and has validated components of the disorder through its predictive power over criminal behaviour. However, this exercise, which is based on predictive statistics, has led to a false understanding and misrepresentation of the associations between PPD and criminal behaviour. Although debates swirl around whether criminal behaviour and antisocial behaviour should be incorporated into or simply correlate with the disorder, the definition of PPD is still influenced by this need to predict behaviour.

This fork in the road leads to heterogeneity within the disorder, as there is growing evidence that different components of PPD show contrasting relationships to psychological, cognitive and behavioural characteristics (Patrick 2018). With the consensus that etiologically PPD is complex and that distinguishable subtypes of PPD are a real phenomenon (e.g. primary PPD, secondary PPD, successful PPD, violent PPD, etc.) comes a concern that PPD is aiming to explain much more than is realistically feasible with a personality disorder. Furthermore, this raises suspicions that the PPD label is better viewed as an umbrella term for individuals who are on the extreme end of certain types of behaviours rather than a true personality disorder.

From this drive to predict, PPD currently has a problematic dual objective: (1) to describe coherent personality characteristics and (2) to develop a set of personality and behavioural characteristics that predict (and some argue explain) rule-breaking behaviour and criminal behaviour. Consequently, these two distinct and separate objectives are pulling the conceptual development of PPD in two different directions.

This leads to the main question posed in this thesis: ***What are we trying to explain with the conceptualisation of PPD?*** This objective of predicting rule-breaking or criminal behaviour only increases the confusion surrounding PPD, as it is now defined by predetermined rule-breaking morality. It is therefore important to understand the

limitations of PPD and what it should and should not be used for. As Ronald Blackburn (1988: 511) stresses: “Such a concept is little more than a moral judgement masquerading as a clinical diagnosis”.

This PhD aims to gain knowledge on the relationship between behaviour and PPD by integrating PPD into a Situational Action Theory (SAT) framework of crime causation. This will help dispel the misconception that the priority of PPD should be to predict (or explain) criminal behaviour. It will also help refocus the field’s attention on the objective of developing/refining PPD as a personality disorder, regardless of its relationship to crime. The way forward should be to understand the components of PPD separately instead of grouping them under a single heterogeneous label. This also moves away from a predetermined rule-breaking morality of the individual.

Chapter 1 outlines the theoretical and applied concerns of having a dual objective for PPD. The focus in this chapter is on how this leads to (1) debates surrounding the differences in conceptualisation; (2) misconceptions (theoretical and measurement) about the relationship between personality and behaviour without a proper framework; and (3) assumptions of a predetermined rule-breaking morality. Additionally, this chapter examines the expression of PPD in other populations and how prediction of behaviour has a major emphasis on the validation of the disorder. Building on the concerns raised, Chapter 2 justifies the need to incorporate PPD into an SAT framework, which itself aims to understand the process leading towards criminal behaviour. Incorporating PPD into an SAT framework develops an appreciation that a statistical relationship to criminal behaviour is not a strong enough argument to define a personality disorder, nor is it a valid reason to assume that the PPD components have the same etiology. It also helps re-structure our understanding of an individual’s morality separately from the PPD components. Finally, it helps us understand the processes that bring about criminal behaviour which realistically gage the role of the individual.

Chapter 3 outlines the methodological approaches utilised in this thesis. This includes a justification for why an adolescent sample was chosen, as well as a detailed breakdown of the recruitment process, the fieldwork procedure, the questionnaire administered, and the sample demographic. Normality testing as well as univariate and multivariate outliers are discussed. Chapter 4 is the first of two chapters that present the analysis of results, which include preliminary findings between the measures. These

findings focus on morality's relationship to PPD subscales and whether any gender differences are apparent. More specifically, this chapter studies the strength of the relationship between morality and PPD through the use of correlations and regressions. The association with in-school rule-breaking is also analysed. Chapter 5 looks at Structural Equation Modelling and the moderation capabilities of morality on PPD's relationship to rule-breaking behaviour. A description of Structural Equation Modelling, structural invariance, and measurement invariance are included in this chapter. This leads to questions about the heterogeneity of PPD and whether it can be better viewed within an SAT framework. Finally, Chapter 6 summarises the literature and research, the major analytical findings, and the key theoretical conclusion. It also offers suggestions for future research and the directions such research might take. The chapter's overall focus is on morality as a moderator and the overemphasis of impulsivity within the conceptualisation of PPD.

Chapter 1: The current state of the psychopathy field

There is much confusion surrounding the concept of Psychopathic Personality Disorder (PPD) and how it is expressed in individuals. This chapter raises the concern over the dual objective of PPD and how this warps the disorder into an incoherent conceptualisation. This determination for PPD to predict and even explain the heterogeneity of rule-breaking behaviour while simultaneously being a coherent personality disorder is unrealistic and overly ambitious.

"Many of the controversies surrounding psychopathy stem from fundamental disagreements about its basic definition, or operationalization." (Skeem et al. 2011: 97)

"The need to further clarify how psychopathy can be captured in definitional terms remains a high priority in seeking to understand the nature and bases of this condition in younger samples." (Salekin et al. 2018: 482)

"The aim should be to establish whether there is a qualitatively distinct category of adolescent psychopathy, which personality traits should operationally define it, and how prevalent it is among different groups (e.g. males and females) and in different settings." (Farrington 2005: 495)

Despite the inroads made in recent decades, the concept of Psychopathic Personality Disorder (PPD) and how it relates to antisocial behaviour continues to spur a certain amount of disagreement and confusion. It is well known that PPD and crime are strongly linked (Brandt Kennedy Patrick & Curtin 1997; Barry et al. 2000; Campbell, Porter & Santor 2004; Corrado, Vicent Hart & Cohen 2004; Gretton et al. 2001; Hare & Jutai 1983; Hemphill, Hare & Wong 1998; Kosson et al. 2002; Serin & Amos 1995). PPD is recognized in the field as a *predictor* of crime, with some even arguing it is the single most important variable in forecasting criminal behaviour (Hare 1998; Wilson & Herrnstein 1985). More specifically, it is an established factor in the prediction of future general and violent recidivism (Bergstrom et al. 2018; Douglas et al. 2018). Currently the most popular measures of PPD, the family of instruments classified as the Psychopathic Checklist, are known to be used in sentencing, parole hearings, mental health settings, and treatment recommendations (Chauhan, Reppucci, & Burnette, 2007; Rockett, Murrie, & Boccaccini, 2007). In fact, due to the strength of association between PPD and recidivism, the Psychopathic Checklist – Revised (PCL-R; Hare 2003) has been used as a risk assessment tool (Jaber & Mahmoud 2015) and has been integrated into other violence risk assessment tools. The PCL-R was previously integrated into the first and second versions of the HCR-20 (Douglas et al. 2013), a structured professional judgement risk assessment tool aimed at predicting violence risk. The PCL-R antisocial measurement (facet 4) has also been incorporated in the latest version of the VRAG (Quinsey, Harris, Rice, & Cormier, 2006), an actuarial violence risk appraisal guide. However, while PPD has been used to predict future rule-breaking behaviour and some

have maintained it is also a theory of crime in and of itself (e.g. DeLisi 2009; 2016), understanding how it can explain rule-breaking behaviour becomes confusing, as the concept of PPD itself is not clearly defined. This has led to questions about its function as a personality disorder (Blackburn 1988; Gunn 1998; Krueger 2006; Walters 2004).

The main takeaway for the reader of this thesis is to question the "path" we, as a field, are following to develop PPD. As simple as it appears, the question ***What are we trying to explain with the conceptualisation of PPD?*** is a difficult one to answer. Currently, there are two key simultaneous aims of PPD, but they do not overlap, which can account for the confusion over its definition and functionality. The first aim research attributes to PPD is (1) to describe coherent personality characteristics, while the second aim is to (2) develop a set of personality and behavioural characteristics that predict (or some argue explain) rule-breaking behaviour. While commonly mixed into a single objective in the PPD literature, these two aims can be viewed as very different paths in the evolution of the disorder. Currently, PPD overflows into both, and it is difficult to view how these two objectives can arrive at a single coherent personality disorder. Based on this logic, it is understandable why certain items, factors, or facets within the measurements of PPD may link to one of these aims and not the other.

I argue that as PPD represents a personality disorder, understanding the underlying cause or etiology of it should be prioritised regardless of its relationship to rule-breaking behaviour. Although PPD may be related to an increase in rule-breaking behaviour, the field should not be actively developing the personality disorder with the goal of strengthening this relationship. Instead, PPD should be integrated into criminological theories, which would then further our understanding of its relationship with rule-breaking behaviour while concurrently focusing on it as a personality disorder with a single underpinning cause. This is more advantageous than developing it as a cluster of personality traits and behaviours that have predictive value over crime and hoping to explain both aims adequately.

In order to contribute to the field of PPD by starting to integrate it into a criminological framework, this chapter will focus on the dilemmas currently surrounding the disorder. In relation to PPD's association with antisociality, two main factors must first be addressed:

1. How to define PPD, i.e. what is it that is being associated with rule-breaking behaviour? It is hard to pinpoint how PPD is defined in studies. While some reference the PCL-R when defining the personality disorder, others neglect to define it at all. Unfortunately, without a clear definition of PPD, it is hard to understand what is being related to other concepts and behaviours. There are three main reasons why properly defining PPD is troublesome:

    - Debates surrounding the differences in conceptualising PPD
    - Misconceptions about the relationship between personality and behaviours
    - Assumption of predetermined PPD morality and motivations

2. Concerns over validating PPD in other populations (e.g. childhood, adolescence, females) by how well it can predict rule-breaking behaviour, as this can lead to misconceptions. Since the 1990s, there has been a surge in the research to understand the developmental aspects of PPD and how it is expressed in young people. However, as the concept was developed in an adult male prison sample, questions remain as to how well it applies to young people. Furthermore, the research on female PPD throughout development and adulthood is lagging compared to males. In these two different populations, the emphasis on predicting rule-breaking behaviour commonly plays a central role in the development and validity of PPD and is generally used as the "glue" to hold the concept of PPD together. This should not be the case, and this focus on rule-breaking behaviour should be irrelevant to the validation of PPD. Importantly, the argument is not to refute the relationship between PPD and rule-breaking behaviours but to question whether this prediction of rule-breaking behaviours is of primary importance to shape the development of PPD.

To date, most studies have lacked integration of PPD into a criminological framework to help explain its link to rule-breaking behaviour. These studies are therefore limited in their conclusion of this link. The current study takes a novel route to understanding the relationship between PPD features and rule-breaking behaviour in adolescence by integrating these features into an already established theory of crime causation, Situational Action Theory (SAT; Wikström 2010; Wikström & Treiber 2009; Wikström et al. 2012). SAT argues that human actions are a result of rule-guided principles and that in order to understand how individuals come to break rules or act defiantly, comprehension is needed about how they perceive and choose to act in regards

to the motivations experienced. This integration will allow us to further our understanding of why some individuals with PPD are heavily linked with an increased risk of recidivism while others do not behave antisocially.

1.1. Defining PPD

PPD, from its introduction to psychiatry more than two centuries ago to today, has over-encompassed certain behavioural aspects deemed unrelatable by the next generation of researchers. The concept of PPD has also flirted with different morality concepts over the years (morality has largely been synonymous with motivation in the literature), jumping from neutral morality to a lack of morality to morally and inherently deviant to a lack of moral reasoning. Currently we know a great deal about the psychopathic offender as defined by the PCL-R but very little about the nature of PPD (Skeem et al. 2011). As it stands, the concept of PPD is still being refined and certain characteristics are now being eroded. And although there is much research on this topic and empirically strong support for the correlations between PPD and rule-breaking behaviour, this is less agreed upon in a theoretical sense.

Although some argue that the concept should be completely discarded (e.g. Blackburn 1988), this study takes the approach that PPD is best defined and understood when broken down into dimensions rather than being viewed in its entirety. Clinically, understanding patients' dimensional "profile" could help identify their needs more accurately (Gunn 1998). These PPD dimensions should be (1) defined as tendencies to behave rather than being defined by the specific acts/behaviours themselves and (2) viewed independently from a predetermined antisocial morality. These are the requirements that should be strived for when developing PPD, rather than focusing on predicting and explaining criminal behaviour. Therefore, this study will take on these two requirements as a starting point to view the current state of the PPD field. As individuals with PPD are a heterogeneous group, the PPD label itself does not help identify disabilities. By evaluating dimensions, a better indication for treatment potential and change over time can be determined (ibid.) This thesis will base its dimensions of PPD off of the three-factor model (impulsivity/irresponsible, grandiose/manipulation, and callous/unemotional), as this has been subject to a great deal of research over the years (see Skeem & Cooke 2010).

1.1.1. Debates surrounding the differences in conceptualising PPD

PPD has never held as much influential power as it does now in criminal justice systems. In large part because of the development of the PCL (and its revised version PCL-R; Hare 2003) and its predictability over general and violent offending, PPD research has had a recent surge in funding. For example, the Canadian Social Science and Humanities Research Council raised its funding for PPD research by roughly 600% between the late 1990s and late 2000s (Jalava, Griffiths & Maraun 2015). However, this should come to no surprise when one takes into consideration the trillion-dollar industry that is crime and the financial burden of PPD. Kiehl and Hoffman (2011) estimated that from the $2.3 trillion the United States spends on the justice system per year (cost of lost property, police costs, courts, prosecutors, public defenders, jurors, jails and prisons), individuals with PPD are responsible for $460 billion of this. These individuals, who comprise 0.5% to 1% of the total population (Blair, Mitchell & Blair 2005; Coid et al. 2009), offend at a greater rate compared to the average person; furthermore, individuals with PPD are 25 times more likely to be incarcerated compared to individuals without PPD (Kiehl & Hoffman 2011).

Although these numbers are impressive and provide a sample of the magnitude of the problem, PPD is not a perfect concept, and this makes it difficult to realistically estimate how much individuals with PPD actually cost criminal justice systems. Furthermore, just because its conceptualisation has clinically evolved for the better over the years, this does not mean we have arrived at the "finished product". There is still no agreed-upon definition, and this should raise a red flag. However, many researchers would characterise PPD as a cluster of three dimensions: callous/unemotional traits, impulsive/irresponsible, and grandiose/manipulative. Essentially, an individual with PPD is perceived to have lack of shame, lack of guilt, inability to learn from consequences, disinhibition, impulsiveness, and aggressive actions. The variations within which PPD has been conceptualised in recent decades stem from the work of Hervey Cleckley in 1941. Cleckley was an American psychiatrist who helped initiate an effort to refocus on the importance of affective deficiency in the diagnosis of PPD by expanding on the description and diagnostic precision of moral reasoning. His book *The Mask of Sanity* (1941, 1976) aimed to triage the various conceptualisations that had been wrongly incorporated into the disorder in an effort to define a more realistic concept that

could be used to counter the over-inclusive conceptualisation. Before Cleckley's re-conceptualisation of PPD in the 1940s, clinicians were using the term for people who were depressed, weak-willed, excessively shy and insecure, among other abnormal and asocial behaviours (Kiehl & Hoffman 2011). Cleckley helped refocus the concept of this central aspect of moral reasoning.

Basing himself on 15 patients he believed to be psychopathic, he formulated 16 criteria to diagnose the disorder. These criteria were: superficial charm and good intelligence; absence of delusions and other signs of irrational thinking; absence of nervousness; suicide threats rarely carried out; inadequately motivated antisocial behaviour; poor judgement and failure to learn by experience; unreliability; fantastic and uninviting behaviour (with or without drinking); sex life impersonal, trivial, and poorly integrated; failure to follow any life plan; untruthfulness and insincerity; lack of remorse or shame; pathological egocentricity and incapacity for love; specific loss of insight; unresponsiveness in general interpersonal relations; and general poverty in major affective reactions. To make more sense of these criteria, Patrick (2018) breaks them down into three categories. The first is labelled Mask features (social charm, good intelligence, lack of nervousness, absence of delusions, etc.), as this differentiates PPD from other conditions. The second is Behavioural Deviance features (impulsive antisocial, irresponsibility, etc.), and the third is Shallow/Deceptive features (lack of affective reactions, absence of remorse, etc.). Cleckley's work and concept of PPD have been hugely influential in the field of contemporary PPD research, and as Patrick argued, Cleckley's work resulted in a shift from using the term psychopathic as a general label for multiple conditions to a specific concept marked by a single set of criteria. It also advanced the idea that general antisocial and criminal behaviour in itself is not enough to label someone as psychopathic.

As emphasised earlier, many of the recent conceptualisations of PPD are based on Cleckley's model. Robert Hare, for example, used Cleckley's model as a starting off point in order to develop the PCL-R. Hare's early work (1980; 2003) helped the advancement and awareness of the affectivity and moral reasoning components emphasised in the disorder. Building on his research with colleagues, Hare developed the PCL scales to measure PPD in referred adults, non-referred adults (PCL: SV; Hart, Cox & Hare 1995) and adolescent populations (PCL: YV; Forth, Kosson & Hare 2003), which allowed for a novel way of measuring latent affective features of the disorder as well as

the associated impulsive, interpersonal, and behavioural antisocial acts. The early factor structure and conceptualisation of the PCL family was viewed as a stable two factor model, where Hare viewed PPD as being simultaneously characterised by a lack of affective or emotional depth (Factor 1) and by a behavioural side that grouped together deviant behaviour such as antisocial, impulsive, and risk taking (Factor 2). However, others criticised the overemphasis of such behavioural characteristics as antisocial and criminal behaviour within Hare's concept (Skeem & Cooke 2010). With Hare's research primarily seeking to understand PPD in forensic and prison settings, the concern was that the rule-breaking behaviours being focused on were specific to offenders with PPD rather than being overall characteristics of PPD. However, measuring PPD in this manner drew much attention in the area of criminology and forensic psychology, as increased scores on the PCL were associated with increased recidivism rates (Hemphil et al. 1998), although concerns remained about the strength of PPD's association with recidivism without this emphasis on past rule-breaking behaviours. Because of this, the PCL family is argued by Hare (1998) to be the single most important clinical instrument in the criminal justice system due to its ability to predict recidivism and institutional compliance.

The current perspective of PPD is still contested. The question remains whether antisocial behaviour is a symptom or consequence of PPD. This remains unclear. A symptom of PPD is a direct expression of the disorder, while a consequence is indirectly associated with the disorder (Cooke, Michie & Hart 2006). This acquirement of antisocial behaviour integrated into the concept can be attributed throughout its evolution. However, there is ongoing debate as to whether criminality and antisocial behaviour should be incorporated in the definition of PPD. Hare and Neumann (2005) argue that a crucial aspect of PPD is the emergence of early onset rule-breaking behaviour and that this behaviour is a central component of PPD. Hare (2003) insists that most of the personality characteristics that define PPD are inferred from behaviours that are antisocial or harmful to others and that to measure core PPD personality traits without the use of rule-breaking behaviour is ambiguous and unclear.

Hare and Jutai (1983) were among the first to investigate the relationship between PPD and violent offences. They found that PPD federal offenders were twice as likely to be charged with a violent crime as non-PPD federal offenders. Furthermore, offenders with PPD were five times more likely to violently recidivate compared to non-PPD

offenders (Serin & Amos 1995). To further complement these findings, Hemphill, Hare and Wong (1998) conducted a meta-analysis between recidivism rates and PPD traits and found that antisocial traits associated with PPD were the most predictive of recidivism. The disorder has also been associated with early onset. PPD in adolescents was positively related to delinquency, aggression and versatility of criminal behaviour (Campbell, Porter & Santor 2004; Kosson et al. 2002), which has been Hare's argument for the inclusion of rule-breaking items such as antisociality within the conceptualisation of PPD. Individuals scoring high on the PCL-R were also found to be four times more likely to violently recidivate among offenders (Hart et al. 1988). Well into their 40s, offenders scoring high on PPD consistently committed more violent and non-violent offences than offenders without high scores on the PCL-R (Porter, Birt & Boer 2001). These are impressive results, although another meta-analysis by Walters (2003) found the strength of the association between violent and general recidivism and PPD was less strong for the affective-interpersonal traits (Factor 1) of PPD compared to the deviant lifestyle items (Factor 2), while a meta-analysis conducted by Gendreau and colleagues (2002) also evaluated the relationship between the PCL-R and general/violent criminal behaviour. Only prospective studies which measured PCL-R scores before recidivism were examined instead of other studies that retrospectively scored PCL-R scores. Effect size for the deviant lifestyle factor was also reported to be greater compared to the affective-interpersonal factor. Despite this relatively strong effect, the heterogeneity of the effect sizes from the individual studies within the meta-analysis suggests some moderators (e.g. assessment methodology, length of follow-up, gender). This element of predictive power over general and violent recidivism seemed to have been a main argument for the inclusion of rule-breaking items, and consequently, this aim of prediction found itself at the heart of the development process aiming to understand PPD.

In a way, this loss of focus on understanding a personality disorder in order to incorporate prediction might have been influenced by the enormous pressure applied from within the criminal justice, mental health, and forensic mental health sectors to predict future general and violent recidivism. Over the past two decades, more resources have been directed to this issue, since a study in the early 1980s (Monahan 1981) concluded that clinicians and mental health professionals were unable to predict future violence and criminal behaviour accurately. Through this boom in risk assessment research, PPD has emerged as a viable method to achieve this goal of accurate prediction

(Douglas, Vicent & Edens 2006). Given the increased consumer demand for predicting crime and the PPD association with increased aggression, rule-breaking behaviour, lack of emotional reactivity, empathy, and impulsivity, it becomes somewhat apparent at face value to test the personality disorder's usefulness in the risk assessment market. The predictive nature of PPD over antisocial behaviour in males is not questioned; however, Douglas and colleagues (2018) cite four issues with using the PCL-R as a risk assessment instrument, the first being that specific risk assessment tools outperform the PCL-R in quantifying risk. The second is that there has recently been less support of PPD predicting criminal behaviour when other risk factors are considered. The third issue, they argue, is that the validity of the PCL-R may be weaker in a field setting compared to a research setting. The fourth concern is that the interpersonal and affective characteristics of PPD are only weakly predictive of criminal behaviour.

In an aim to move away from a two factor model that has focused on antisocial behaviours as part of the conceptualisation of PPD, Cooke and colleagues argued for a refinement of the PCL-R scale. In the early 2000s, a three factor model reconstruction of the PCL-R was introduced, which conceptualised PPD as having (1) an impulsive and irresponsible behavioural style, (2) deficient affective experience, and (3) an arrogant and deceitful interpersonal style (Cooke & Michie 2001). This shift in conceptualisation was attributed to two main questions that Cooke and colleagues expressed concerns over: "Do the symptoms of psychopathy form a coherent syndrome?" and "Is antisocial behaviour a primary or secondary symptom of psychopathy?" (Cooke et al. 2006: 93). They put forward this three factor model in response to what they saw as a two factor model of PPD that was too broad, as it incorporated antisocial behaviour, which for them was better viewed as a potential consequence of the disorder than a symptom in and of itself. Items such as poor behavioural control, early behavioural problems, juvenile delinquency, and criminal versatility were seen by Cooke and colleagues as behavioural consequences, which were originally considered part of the conceptualisation by Hare and colleagues due to their focus on an offender male sample during the development of this instrument. Cooke and colleagues further argued that this new reconstructed conceptualisation better represented the original Cleckley model of PPD. Although certain behavioural elements remained, this refocus helped view personality as the core of PPD.

This movement to remove antisocial behaviours from the concept and consequently from the measures has since gained more ground (Cooke & Logan 2018; Cooke & Michie 2001). The logic is that due to the heterogeneity of antisocial behaviour and the various personality correlates associated with it, the measures of PPD that include antisocial will lack specificity and over-diagnose individuals who do not have PPD. In other terms, PPD measures would not be accurate in identifying true negatives. More recently, Cooke and colleagues (2004; 2012; 2018) have developed their own conceptualisation independent of the PCL-R. Although this is still very much in development, they aim to move away from pure behaviours as a way of conceptualising PPD and towards behavioural tendencies. Known as the Comprehensive Assessment of Psychopathic Personality (CAPP), its development was divided into three stages. The first was an assessment of the relevant features of PPD from a literature review. The second stage was a semi-structured interview with professionals in the field (clinicians and researchers) to further identify the features of PPD. The third and final stage involved deciphering the primary symptoms gathered from stages one and two. As the feature of impulsive came up frequently, it was included in the list of primary features of PPD. However, this description of impulsive was broad and vague. To date, most studies that focus on the CAPP are based on its conceptualised reliability and validity and not on how this concept relates to other psychopathological measures or how well it can predict antisocial/criminal behaviour. The only study to date to examine the predictive efficiency of the CAPP was done by Pedersen and colleagues (2010). They compared the PCL-SV and CAPP in predicting general and violent recidivism over the course of five years. Results indicated that overall, no significant differences were found between the measures in both general and violent recidivism. Therefore, due to its similar predictive abilities and focus on assessing PPD by tendency to behave rather than fixed behaviours, the CAPP would not only be useful in predicting recidivism, it would also be more flexible in its management and reassessment of PPD within an individual (Bergstrom et al. 2018).

The advantage of the CAPP is that this focus on an open concept approach capitalises on depicting these domains with trait-descriptive adjectives rather than a fixed and restricted set of behavioural indicators (Cooke & Logan 2018). Since behaviours are not influenced by personality alone, basing personality traits on behavioural manifestations can be inaccurate. By using a trait-descriptive approach, PPD as viewed by the CAPP

can be construed as a greater tendency to behave a certain way rather than being based on exemplary behaviours, which is not as informed an approach when trying to understand an individual's personality.

This disagreement of the characteristics of PPD can arguably be viewed as a disagreement about the objective of PPD and what its development is intended to explain. This double objective is much too ambitious for a single disorder, and the heterogeneity of characteristics lends itself to being an apt introduction to the next section.

1.1.2. Differentiating between personality and behaviours

Including behaviours within the conceptualisation of PPD distorts the accuracy of distinguishing between its criteria and outcome (Walters 2004). The concept of PPD itself was developed to explain deviancy (Blackburn 1993) and consequently has integrated deviancy within its concept. This is most apparent in the two factor model of the PCL-R (Harpur et al. 1989), which integrates antisocial behaviour as one of the components of PPD. However, measurement issues of confusing behaviours, to the extent that behaviours can explain personality features, also exist. This is apparent when practitioners infer emotional processing or personality features from behaviours. As behaviours are not only explained by personality, inferring personality features based on the individual's past behaviours (in the case of PPD, antisocial/criminal behaviour) can warp and inaccurately categorise individuals. For example, judging someone's lack of remorse because of their chronic reoffending and then explaining their chronic offending because of their lack of remorse can lead to inaccurate conclusions.

Figure 1-1 displays this measurement error in assuming the translation of behaviours back into personality without considering the social context in which the action took place. It is easy to understand that people are the source of their behaviours, but the context in which the behaviour takes place is relevant to our understanding of frictions, triggers, and an individual's motivation and perception of behavioural options (Wikström 2017). And without taking into consideration the social context, an oversimplified conclusion about the individual's personality is reached. This is quite an assumption to make, especially when aiming to understand long term desistance from crime. Researchers in the field will acknowledge the relevance of the social context, although how this is integrated into current psychological instruments aiming to predicting re-

offending rates is undeveloped. Consequently, this leads to overemphasising the role of personality by wrongly integrating social context within it.

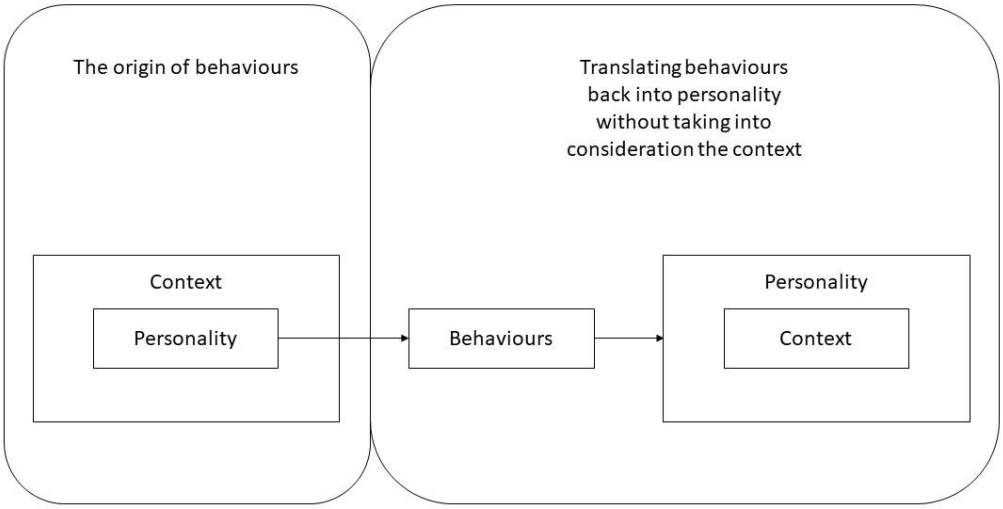

Figure 1-1: Measurement error in assuming personality is the only cause of behaviour

Blackburn (1988) also raises concerns over the conceptual inflexibility of diagnosing personality disorders based on behaviours, maintaining they do not provide any valuable information about the individual's personality. As personality is closely related to behaviours, there are other factors contributing to behaviours, such as the moral context and the situation in which the behaviour occurred (Wikström et al. 2012). Blackburn stresses the importance of PPD being defined by tendencies to behave rather than behaviours themselves. This emphasis on behavioural tendencies is where PPD should be heading, rather than focusing on specific acts or occurrences which are inflexible, he argues. Behaviours like criminal or antisocial behaviour cannot determine this 'how' to behave. Behavioural tendencies are better at providing an accurate understanding of an individual's personality. Blackburn uses the example of spanking a child. In accordance with some sociocultural norms, this might be seen as a form of abuse, while in other social norms this could be considered legitimate punishment. Although the behaviour is the same in both sociocultural norms, the label of deviancy is either attached to or

removed from the behaviour. Although this is a simple example using broad sociocultural norms, this logic of norm or "typical ways to behave" can also be applied to smaller environments and settings.

In order to have homogeneity within a personality disorder (or any disorder for that matter), the criterion for a diagnosis has to be part of a single particular dialogue, or what Blackburn describes as a particular *universe of discourse*. For professionals to understand the diagnosis, group members need to have similarity of attributes (homogeneity) which hold to a particular universe of discourse. For example, citizens of the United Kingdom form a group within the universe of nationalities. Citizens of Canada form another distinct yet homogeneous group in regards to the universe of nationalities. However, groups that are homogenous in one universe may be heterogeneous in another. It is therefore very important to distinguish the universe of discourse that is relevant to what is aimed to be understood. Homogeneity of citizens might be useful to understand nationalities, but it is a useless when trying to understand a universe of eye colour. In each nationality, there will be heterogeneity in eye colour for the members of those groups. Although some nationalities will have higher rates of blue eyes while others will have higher rates of brown eyes, evaluating a universe of eye colour through citizen groups will lead to inaccuracies and heterogeneity between groups. Thus the citizens of Canada will contain individuals who have blue eyes and individuals with brown eyes, and therefore from a universe of discourse aiming to assess and understand eye colour, country citizenship will be an invalid way of differentiating between groups in that particular discourse, and heterogeneity will occur.

It is therefore extremely important to specify in which universe of discourse homogeneity is being sought; using multiple universes of discourse in understanding a single pathological personality issue such as PPD leads to confusion and heterogeneity. Remember the concern raised about the diverging directions the development of PPD is taking. One of those directions is to understand and explain a personality disorder with a single cause or etiology, while the other is to develop a set of personality and behaviour characteristics that predict rule-breaking behaviour. As it stands, PPD has two universes of discourse, and this is leading to heterogeneity within its conceptualisation. When aiming to categorise individuals into homogeneous groups, it is vital to focus on a single universe, for example a comprehensive question such as "brown-eyed or blue-eyed?" rather than "Canadian or blue-eyed?" Although nationalities and eye colour are clearly

different universes and somewhat easy to define, determining the appropriate universe of discourse for PPD becomes a more complicated affair.

Investigation into the comorbidity of personality disorders supports this notion that there is no one type of abnormal personality synonymous with rule-breaking behaviour. In a Turkish community sample of the 140 males who were diagnosed as having antisocial personality disorder (ASPD), 66.9% had substance use disorder, and 36.4% had adjustment disorders. These individuals were further separated into a high scoring PCL-R group and a low scoring PCL-R group (cut-off score was 25). When comparing groups, those who scored high on PPD had significantly higher rates of: current substance use, history of substance use, current alcohol abuse, and generalised anxiety disorder. The high PPD groups also had significantly higher rates of: paranoid personality disorder, borderline personality disorder, and passive-aggressive personality disorder (Tutuncu et al. 2015). In a Finnish prison sample, an investigation into the comorbidity of personality disorders in males was conducted by Klipfel and colleagues (2017). Results indicated that total PPD scores correlated significantly with paranoid, schizotypal, borderline, histrionic, antisocial, and narcissistic personality disorders. Furthermore, the lifestyle facet of the PCL-R was also significantly correlated with dependent personality disorder scores.

This raises the question as to whether these attributes are drawn from the same universe and whether PPD is homogeneous. Blackburn distinguishes two different universes currently involved in the refinement of PPD attributes: personal deviance and social deviance. He views personal deviance much like a personality disorder. Using this rationale, personal deviance is defined as “ways of thinking and feeling about oneself and others that significantly and adversely affect how an individual functions in many aspects of life” (DSM-5). Personal deviance is viewed as maladaptive, inflexible and potentially causing social impairment. More importantly, Blackburn maintains that personal deviance should infer tendencies and should not be described as specific actions or behaviours. Personal deviance is more informative of the “how” an individual behaves rather than being a tangible example of specific acts or occurrences. And while specific acts or occurrences are clearly linked to personality, there are multiple pathways that can lead to specific acts or occurrences. These tendencies require less information to more accurately measure personality. Acts and specific behaviours belong in a different universe, the universe of social deviance. A simple example of the same behaviour

having different interpretations in different social contexts is the example of fighting. Fighting outside a bar at 2 a.m. is viewed as deviant, while fighting in a ring for sport is socially acceptable. The social context matters. Of course these are very different, but slight changes in social context can increase the promotion or deterrence of rule-breaking behaviour such as these, and understanding the magnitude of the pathological deviance of a certain individual requires these subtle differences. For these reasons, social deviance is different from personal deviance.

Membership in one of these universes is not determined by membership in another. An individual can belong to the universe of personal deviance without belonging to the universe of social deviance; they are mutually exclusive. This membership is displayed in Figure 1-2. This can be confirmed from the research indicating the heterogeneity of social deviance. Social deviance is not only present in individuals with PPD; some individuals with other personality disorders and some without personal deviance also belong to the universe of social deviance.

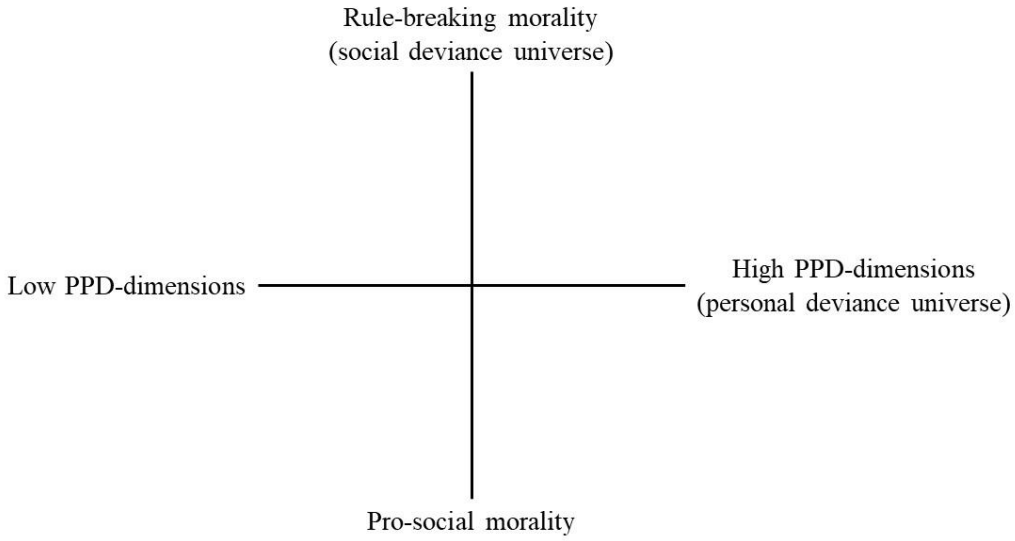

Figure 1-2: The heterogeneous grids characterised by two universes that can define an individual.

Note. PPD= Psychopathic Personality Disorder.

This has also been supported in an adolescent sample. Salekin and colleagues (2004) found that PCL-youth version scores correlated with adjustment disorder as well as conduct disorder, oppositional defiant disorder, and attention deficit hyperactivity disorder. Discriminant validity of PPD in a younger sample was supported in this study, but these correlations, especially the correlation with adjustment disorder, are of concern as they do not fit the conventional concept of PPD in adulthood. Youth with PPD have also been shown to display characteristics of neuroticism (Salekin et al. 2005), indicating that in a younger sample, PPD may be related to higher anxiety and stress. Interestingly, elevated PPD scores over the schizophrenia spectrum have also been reported to be associated with an improvement in social-cognitive abilities in certain circumstances (Gillespie et al. 2017), which suggests that a comorbidity of psychosis and antisocial characteristics is not always associated with increased impairment to cognitive and maladaptive behaviour.

There is evidence of the heterogeneity of PPD and a lack of discriminant variability of PPD, as it is not uncommon to see it in comorbidity with other diagnoses and personality disorders. This is especially concerning with respect to the increased stress and anxiety exhibited in younger individuals with higher PPD scores. However, the relationships between PPD and other disorders are to be expected; as part of its concept, PPD draws attributes from the universe of social deviance that are not mutually exclusive to other types of personality disorder and that are also part of the universe of personal deviance. PPD attributes reside in the personal deviance universe by inferring tendencies such as egocentricity, lack of emotion, and impulsive/irresponsible, while others such as early behaviour problems, revocation of conditional release, criminal versatility, and juvenile delinquency belong in the social deviance universe. A hybrid of these two universes creates confusion and incoherency in understanding the etiology of the disorder. Under the concept of PPD, some individuals will be personally deviant, some will be socially deviant, and some will be both. It is important to distinguish these individuals and not categorise them into a single disorder. This creates heterogeneity and confusion and limits the clinical utility of the concept as an intervention strategy due to its lack of specificity.

Conceptually, the focus on fixed behaviours within the definition of PPD must therefore be removed, and deviancy should be viewed as the outcome. Furthermore, measurement issues such as translating behaviours back into personality can limit our

understanding and the conclusions we assume to be correct. A distinction needs to be made between *personality deviance*, which infers tendencies of behaviour, and *social deviance*, which are the acts/behaviours themselves. Personality deviance holds value in explaining the *how*/*manner* of behaving, where the focus is on the individual. Social deviance is the act or behaviour itself, where the focus should lie on sociocultural norms and the social context of the setting in which the behaviours take place.

1.1.3. Assuming the rule-breaking morality of an individual with PPD

This element of social deviance within the concept of PPD did not develop out of thin air. Associating PPD with these behaviours has developed over decades, and PPD as a clinical concept was developed in part to describe and explain deviant behaviour (Blackburn 1993). PPD was first examined in a clinical setting over 200 years ago by French physician Philippe Pinel, who labelled the condition as *maniaque sans délire* and viewed the mental illness as morally neutral (Arrigo & Shipley 2001). Morally neutral is the principle that behaviours exhibited by individuals with PPD are neither good nor bad. For example, morality has no place in a conversation about a racoon destroying a garden by eating all the vegetables, and according to Pinel, judgement and the morality of these individuals' actions is beside the point. Pinel argues against the ideology that the disorder is inherently bad. Otherwise stated, PPD-driven actions and reactions are seen as neutral, and the goodness or badness of actions can only be judged by situations and not by the disorder alone.

While working in an asylum in Paris, Pinel noticed that although some individuals seemed to have no obvious psychopathology disorder, they engaged in instances of extreme violence, impulsivity and self-harm (Arrigo & Shipley 2001; Millon et al. 1998). He emphasised this lack of affect and morality in his patients and its detrimental consequences on decision making. The term psychopathy was only introduced and attributed to the disorder in 1888 by Julius Ludwig August Koch, a German psychiatrist. However, at the time, some academics, including Koch, were sceptical that this emphasis on a neutral morality as the core of concept as viewed by Pinel could be reliably measured. Their argument was that morality depended heavily on the rater's interpretation, which at the time was viewed as weakening the credibility of the disorder. This scepticism by psychiatrists and academics that one would be able to adequately

measure levels of morality or affectivity led them to define the disorder in a more tangible way: behaviours (Kiehl & Hoffman 2011).

Consequently, as this emphasis on behaviour as a basis for diagnosis gained popularity, views of PPD as a morally-neutral disorder were sidelined. Richard Krafft-Ebing was one of the first psychiatrists to express a belief in the chronic social deviance of the disorder, concluding that lifetime incarceration was the only viable option (Ellard 1988). With the move away from an affective and morality core and leaning more towards a behavioural definition, PPD not only included maladaptive features impeding pro-social behaviour but incorporated all that was antisocial, abnormal and asocial. As a consequence of this lack of guidance from a morality perspective, over time all behaviours that were seen as abnormal or deviant were included in the disorder (e.g. depression, suicide, anxiety, shyness, insecurity; Kiehl & Hoffman 2011). However, Emil Kraepelin criticised the concept of PPD as over-inclusive and aimed to narrow the classification, but he did so by only including the most devastating and frequent behaviours viewed by physicians (Arrigo & Shipley 2001). Kraepelin gained much popularity, and his work eventually discarded the association of moral neutrality and PPD. "Inherently bad" was the primary association with PPD; Kraepelin even labelled psychopaths as enemies of society (Million et al. 1998). Although this move away from identifying PPD as abnormal and asocial and identifying these individuals solely as antisocial is similar to the current understanding, this categorisation still over-included other clinical conditions. Kraepelin labelled a subtype of PPD "swindlers" who exhibited salient charm, persuasion and no morality and would specialise in cons and fraud (Patrick 2018). Other subtypes of PPD, according to Kraepelin, were the born criminal (persistent antisocial), the compulsive (addiction-driven), and the quarrelsome (hostile/impulsive). Patrick (2018) brings forth a valid perception that during this time in the early 1900s, this still over-inclusive conceptualisation by Kraepelin and other practitioners rendered the label PPD meaningless.

Although the view of PPD as synonymous with other clinical disorders gradually eroded away, deviancy remained closely connected with PPD. And because the argument that psychiatrists were not properly equipped to assess an individual's affective processes continued well into the 1970s (Robins 1978), deviancy or rule-breaking behaviour was used as a proxy to assess affectivity. Although academics understood that psychological processes were crucial to understanding a personality disorder, confidence in reliably

measuring these latent psychological features remained low, and by default defining the disorder using behavioural characteristics persisted. Building on the longitudinal work by Robins and Lewis (1966) investigating antisocial behaviour persistency into adulthood, the DSM-III introduced ASPD in 1980, which was meant to be synonymous with PPD. However, unlike PPD, ASPD discarded the moral and affective features and exclusively kept the deviant aspects of PPD. Consequently, this increased the heterogeneity of the diagnosis. Although behavioural manifestations of a disorder are more easily measured due to their tangibility, different pathways to behaviour exist, making ASPD an oversensitive and heterogeneous disorder. Several researchers have also criticised the overlapping diagnosis of ASPD with criminality (Hart & Hare 1997). Stevens (1994) expressed concerns over the use of the ASPD label, stressing that clinicians deployed it only as a warning to other clinicians about certain individuals rather than for the purpose of treatment recommendations. She went on to argue that the label is used more as a way to alienate individuals by emphasising their badness and the hopelessness of change.

Throughout the development of PPD and recently ASPD, this motivation to behave in an antisocial manner has been a principal component. Although not labelled as motivation, the term morality, in this field, represents a drive to behave. Mostly in the form of antisocial behaviour, morality has been linked with PPD. Although this term has held different interpretations depending on the historical timeline (e.g. Pinel: morally neutral, which meant that these individuals were not motivated to be antisocial or prosocial; Kraepelin: inherently bad morality, which indicated that there was a drive to behave in a profoundly antisocial manner; Koch: asocial behaviour linking to PPD, being withdrawn from society and excessively shy), morality/motivation in these contexts always represented a drive towards a certain behavioural pattern.

John Gunn (1998), in his article: *Psychopathy: An Elusive Concept with Moral Overtones,* criticises the assumption of applying the term antisocial as it hinders the understanding of the true nature of the disorder and how to devise treatment. This morally loaded concept of PPD (synonymous with motivation in the PPD literature), which is based on an antisocial nature, is a clinical mess that clusters individuals as being untreatable. Similarly to Blackburn, Gunn emphasises that focusing on behaviours as PPD attributes leads to confusion, since there is a multitude of pathology which could be at play. Even when disregarding the social context emphasised by Blackburn, behaviours

can be a response to mood changes, delusions, intense anger, intense irritability, or substance use. The concept of PPD is too unspecific to identify these different pathologies, which consequently does not aid in treatment potentials. If anything, it may lead people away from treatment potentials. Gunn argues that the labels "psychopathic" or "psychopath" stigmatise an individual in the eyes the clinician and that this assumption of antisocial/rule-breaking morality within PPD can result in less treatment potential and more punitive measures for the individual.

Over the past decade, the notion of individuals with PPD being untreatable has become prominent in the literature (See Salekin et al. 2010). Even more concerning, some suggest that certain types of therapies may enhance the rates of violent recidivism for these individuals (Harris & Rice 2006). However, Harris and Rice excluded studies that were based on case studies and those that did not measure recidivism. These are acceptable criteria to reject in a study as part of a review, although this left them with just a few studies (hard to determine how many they actually assessed). The criticism about the generalisability of their review is that they claimed that currently no treatment is effective for PPD. This is somewhat of a bold claim based on only a few studies.

New research suggests that there is actually a positive response to treatment for PPD individuals (Brazil et al. 2018; Polaschek & Skeem 2018). Furthermore, treatment which targets adolescents with high PPD shows even greater potential for change in these individuals (see Skeem Scott & Mulvey 2014). A retrospective study reviewing violent recidivism found that after a 10-year follow up, adolescents who scored high on PCL-YV and who entered the programme were significantly more likely to commit a violent offence in the community compared to those who did not score high on the PCL-YV. However, when reviewing the adolescents high on PCL-YV who completed the programme and did not drop out, there was no significant difference in recidivism rates between those with high and low scores on the PCL-YV (Gretton et al. 2001). Unfortunately, only 64% of individuals with high PCL-YV scores finished the programme compared to a completion rate of roughly 80% for those without high PCL-YV scores. This indicates that those who complete the programme have the same potential for lower recidivism, regardless of their PPD score, although the concern remains how to decrease the dropout rate of those with high PCL-YV scores. It seems as though developing techniques for treatment compliance is as important as developing the treatment itself for these individuals.

Another study prospectively examined the predictability of PCL-YV scores on recidivism rates after treatment. Caldwell and colleagues (2007) found that although PCL-YV scores were related to the onset and severity of past behavioural problems, they did not predict arrest rates post-treatment. Furthermore, PCL-YV scores did not predict poor treatment compliance in this study. This shows promising results for the Mendota Juvenile Treatment Center program, designed to target high-risk adolescents. The program is administered by the U.S. Department of Corrections, but it is run by a state psychiatric hospital. This program has an intense focus on interpersonal processes, social skills and development of social bonds with a decompression model emphasis. This decompression model may arguably be one way to promote higher programme compliance over time. The model is based on gradually lifting individuals out of a disciplinary or punitive setting by developing social bonds and a cooperative dialogue (Caldwell & Van Rybroek 2001).

Although more research on this topic is needed, there is new evidence for positive outcomes in adolescence. Although individuals who score higher on PCL-YV may need more attention, support, and time to adjust compared to their non-PPD counterparts, new research building on cooperative relationships with staff and intensity of the treatment programme is promising. This also helps promote an understanding that PPD is not static and not always associated with antisocial motivation. The stigma attached to this disorder is still prominent. Gunn's main focus is the deconstruction of the concept based on the personal deviance factors raised by Blackburn, rather than categorising individuals under a global PPD label. Impulsivity, aggressiveness and grandiosity should all be evaluated objectively. Moving towards a more specific dimensional approach and away from a general PPD label or score leads to a better understanding of a patient's disabilities and treatment potentials. Moving away from the global PPD label also leads away from stigmatisation and this notion of unreadability.

Although certain methodological limitations restrict us from fully understanding the individual's treatment potential, some of these limitations are based on research-heavy reliance on the PCL-R to measure. This, as argued by Polaschek and Skeem (2018), overlooks the heterogeneity of these individuals and how they differ based on important features such as anxiety, fearfulness, and emotional reactivity, which can all have treatment implications. Furthermore, as the PCL-R takes into consideration criminality and antisocial behaviour in scoring PPD, high scores on the PCL-R are indicative of high

risk individuals for future offending. By default, this leads these individuals with high scores to have higher rates of recidivism and some clinicians to believe that due to their increased recidivism rates, they are less responsive to treatment (Skeem Polaschek & Manchak 2009). This also helps stigmatise these individuals as inherently criminal, when in reality this overlap "reflects a consequence of the design of the PCL inventories rather than an inherent feature of psychopathy itself" (Polaschek & Skeem 2018: 712).

The stigmatisation of PPD and its influence on legal decision making were examined with mock jurors. In a study conducted by Blais and Forth (2014), undergraduates and community members (N= 247) were used as jurors examining simulated trial transcripts. The aim was to assess the impact of the PPD label within these transcripts. Expert testimony in each transcript altered on whether the defendant was labelled with PPD, antisocial personality disorder/conduct disorder, or was given no diagnosis. Each participant read a similar transcript and was instructed to give a recommendation on treatment potential and the risk of future offending. Participants found the defendants labelled as PPD less credible and doubted their version of events. Furthermore, participants were significantly more likely to find defendants with a label guilty, compared to those with no disorder diagnosed. In an investigation on the influence of PPD traits on attitudes of legal sanctions for young offenders in the US, PPD traits were linked with higher support for a death sentence and lower support for rehabilitative programmes in prison (Edens et al. 2003). Participants were asked to read a newspaper article describing an adolescent who had committed murder. Different versions of this newspaper article varied on the presence of PPD traits. These traits describing the defendant were non-specific to the crime; they were general characterisations. Participants were significantly more likely to support the death sentence for the young offender when PPD traits were present. Edens and colleagues concluded that the general presence of PPD traits makes it easier to stereotype and alienate the defendant even when these traits are generalised and unrelated to the specific to the offence.

For these reasons and the notion that an overwhelming proportion of the research developing the concept of PPD involves a prison sample, the term is widely associated with low treatment success (Camp et al. 2013). This ideology leads to a stigmatisation of PPD, which has been researched in the judicial system with the association of defendants with PPD traits and the probability of a harsher sentence. Cox and colleagues (2013) reviewed sentencing outcomes from mock jurors in an undergraduate sample. Based on

vignettes, stronger support for capital punishment was related to the perception of a defendant's PPD level. Similar results were found in Canada when PCL-R scores were used in expert testimonies. PCL-R scores were correlated with experts' recommendations for treatment potential, which was then related to trial outcome (Lloyd et al. 2010). In reviewing the cases, only a small number (5%) had an expert explicitly state that individuals with PPD cannot be treated and therefore should not be exposed to treatment. However, the researchers argue that in general, experts may be basing their recommendation for treatment on PCL-R scores. It was concluded that PCL-R scores should be used with caution during expert testimonies.

DeLisi (2009; 2016) argues that labelling an individual a psychopath should not be seen as a stigmatising and damaging issue, because if "the offender in question has perpetrated abduction, rape, and murder and is thoroughly unrepentant, vicious, and cruel and refuses to accept responsibility for his actions, it is not clear to the current author how or why a psychopathy label is so damaging. Instead it just seems fitting" (2016: 8). Now, although DeLisi has a reasonable argument, it has little to do with stigmatisation and treatment potential. The worry with the current understanding of the PPD label is that the idea they are all vicious and cruel etc. will go beyond those specific individuals who actually show signs of these ideologies, and consequently this assumption of a predetermined rule-breaking morality/motivation will attach to anyone with PPD tendencies. The worry is not about this label damaging the worst offenders but about it damaging those individuals grouped in with these individuals based on the current state of the concept.

1.2. The expression of PPD in other populations

Part of understanding a personality with one etiological cause in its entirety is to examine how coherent it is when expressed in other populations. Through its development, PPD has been primarily examined in Western adult males. While arguably not homogenous for the reasons argued above, how it manifests across developmental periods and genders can help refine a concept which to date has focused on social deviance. Unfortunately, the opposite can also occur. An emphasis on social deviance can be seen as a symptom of a personality in these populations, leading to some false conclusions about its nature.

1.2.1. PPD in youth

The emphasis of viewing PPD as a predictor of criminal behaviour or future criminal behaviour is arguably even more apparent when reviewing the developmental literature compared to the literature focusing on adulthood. Although key questions this subfield of PPD strives to answer are important to focus on (e.g. How early in life can PPD express itself? How stable is it across development? What are the cognitive and emotional correlates of PPD and what do they tell us about its etiology?) (Salekin et al. 2018), the answers to these questions are often supported with the strength of the association with rule-breaking behaviour or how well the tested conceptualisation predicts future behaviour. Since the bulk of the research on the PPD/crime relationship and the development of PPD have focused on adult males and a primary emphasis is already on criminality, the focus on the relevance of PPD in regards to its development, by default, examines its relationship to prediction.

As recently as the 1990s, research on PPD in youth was virtually non-existent (Salekin et al. 2018). Also, throughout its recent rise in popularity among members of the research community, the validity of PPD in youth as a concept has stirred debate (Edens et al. 2001; Lynam 2002; Lynam 2010; Salekin et al. 2018; Skeem & Cauffman 2003). Edens, Campbell and Weir (2007) were the first to conduct a meta-analysis reviewing the strongly suggested notion that juvenile PPD predicts future criminal conduct and violence. The meta-analysis included 21 non-overlapping studies reviewing recidivism rates for male and female juvenile offenders. Overall PPD scores measured by the PCL-YV were associated with general and violent recidivism. Similar to the literature on adult PPD and the meta-analysis conducted by Leistico and colleagues (2008), juvenile PPD is statistically significant to general and violent recidivism. However, the results also showed a lack of consistency of effect size across the studies. This severe heterogeneity is a cause for concern due to the possible fluctuations in diagnoses. This also raises concerns over the accuracy of juvenile PPD in regards to specific populations or groups of individuals. Edens and colleagues followed up by concluding that the vast majority of variability in recidivism remains to be explained by factors other than PPD.

Adolescents who score high on PPD show higher rates of premeditated and instrumental aggression as well (Kruh et al. 2005). In non-referred children, overall PPD

scores have also been shown to be related to both reactive and proactive aggression (Kimonis et al. 2006). Furthermore, in the same study, high PPD scores and high aggression interacted in predicting a reduced emotional response to distressing stimuli, while children who scored high on aggression and low on PPD showed the highest scores in emotional response to distressing stimuli. This raises further questions about the intricacies of PPD in childhood, as some studies indicate an increase in stress responses while others show a decrease (Skeem & Cauffman 2003). PPD has also normally been measured in children between the ages of six and 13; however, research has examined the link between PPD and aggression as early as the ages of two and three (Tremblay et al. 2004). Links between aggression and behavioural characteristics such as impulsive-conduct problems have been shown to be strong, while temperamental and emotional characteristics such as callous/unemotional traits were moderately related to aggression (Christian, Frick, Hill, Tyler & Frazer 1997; Frick et al. 1994). PPD in children is related to both proactive and reactive aggression (Kimonis Frick Fazekas & Loney 2006).

Furthermore, PPD in adolescence has been related to versatility and frequency of criminal conduct (ibid.). Part of the PCL family, the PCL-YV was developed to assess whether PPD could be captured in individuals as young as 13 years old. As debated in adult PPD, the factor structure of this measure is contested. Both a two factor model (affective & interpersonal, lifestyle & antisocial) and three factor model (callous/unemotional, impulsive/irresponsible, and grandiose/manipulative) have been validated. Corrado and colleagues investigated the predictive power of both factors on adult high chronic offending and found that they performed equally well.

Some significant differences should be noted between the PCL-YV and its revised adult version. Firstly, the youth version has more items that rely on peer, family, and school involvement, and secondly, the criteria for each item are designed to accommodate differences in settings, since certain “psychopathic” characteristics are normal in adolescence. Salekin and colleagues (2018) give the example of anger control. Anger against parents is common in adolescence; however, expanding this to a general lack of anger control is less common. Although the emphasis in the PCL-YV is to capture more of the social structure around the individual (e.g. family, peers, school), it still puts the onus on the individual and fails to isolate why a child might strive or fail to behave according to social norms in these environments. With this emphasis on the individual rather than the larger socio-environment, understanding the developmental process of

PPD and how it relates to rule-breaking behaviour often focuses on the three factor model themes (emotionality, impulsivity, grandiosity).

1.2.1.1. Lack of emotion

When investigating the relevance of lack of emotion in childhood and adolescence to PPD, lack of emotion is often viewed alongside uncaringness and/or callousness. This can lead to some assumptions about children with lack of emotion (also called unemotionality) as being predisposed to a rule-breaking-prone morality, when lack of emotion in and of itself is also characteristic of depression and other mental health issues (Sterzer et al. 2007) that are unrelated to antisocial behaviour. This begs for a better understanding of the questions: How do emotions actually lead to antisocial behaviour? Is a lack of emotion an actual disorder or is it merely that these measures capture a dampened emotional response to antisocial attitudes, which then contribute to antisociality while the emotional connection to other aspects of the individual's life is much richer?

An extensive section of research investigating the personality and PPD link is the study of callous/unemotional (CU) traits. This division of personality research is characterised by some as a fundamental component of PPD (Frick & Marsee 2018) and an integral component in understanding severe cases of PPD and antisocial behaviour (Frick et al. 2014; Hare & Neumann 2008). This developmental psychopathological approach aims to understand how normal childhood development of societal norms and behaviours can falter, "resulting in a failure to learn to regulate emotions" (Frick et al. 2014: 533). Callous/unemotional traits are based on an individual's interpersonal emotional disconnection and are characterised by a lack of guilt and remorse, lack of concern for the feelings of others, shallow or superficial expressions of emotions, and lack of concern regarding performance in important activities (Frick 2009). Frick and colleagues (2005) also cite variations in CU traits in adolescents with conduct disorders. Results indicated that those with higher CU trait scores had higher rates of conduct disorder compared to adolescents with lower rates of CU traits. The results showed that 32% of the group with high CU traits had had police contact, compared to 19% of the group with low CU traits.

This area of research came about through an effort to understand the emergence of PPD from childhood to adulthood. Early studies observed that children with conduct disorder problems were heterogeneous in their callous and unemotional personality patterns (Frick 1998; Frick & Marsee 2018). Those who during childhood exhibited a higher emotional disconnection to others, such as shallow emotions and a lack of empathy and guilt, had more severe and versatile rule-breaking behaviour compared to other children with conduct problems (Christian, Frick, Hill, Tyler & Frazer 1997). Furthermore, children with these traits showed fewer intellectual deficits, which is similar to adult PPD (Loney, Frick, Ellis & McCoy 1998), an increase in thrill-seeking and fearlessness, also similar to adult PPD (Frick, O'Brien et al. 1994), and less association with negative parenting practice compared to other children with conduct problems (Wootton, Frick, Shelton, Silverthorn 1997). In a study by Flexon and Meldrum (2013) that reviewed the relationship of callous/unemotional traits to violent behaviour with 15-year-old non-referred adolescents, after controlling for known correlates of violence such as low self-control, peer violent behaviour, poor school bonding, and ineffective parenting, callous/unemotional traits were significantly related to violence. However, peer violent behaviour had the strongest effect size compared to all other measures.

Frick and Dantagnan (2005) investigated the differences in early adolescence between individuals with conduct problems who differed on callous/unemotional traits over the period of four years. Interestingly, those who were grouped as having high callous/unemotional traits and who had consistent conduct problems over the course of the study were also associated with experiencing more severe stressors (e.g. parental divorce or death of a parent). Furthermore, this group also showed less association with deviant peers compared to adolescents with low callous/unemotional traits and consistent conduct problems. The researchers do stress that the study used a small sample size and results could have been more susceptible to random variation. Research on callous/unemotional traits in youth suggests that in order to fully understand the causal influence responsible for rule-breaking behaviour, heterogeneity of individuals with conduct problems must be taken into consideration, i.e. understanding that severity and frequency of rule-breaking behaviour in individuals with conduct problems can vary due to their interpersonal callous/unemotional traits and that these factors may operate differently between subgroups (Frick et al. 2014).

Kimonis and colleagues (2006) investigated how young boys and girls processed emotional stimuli. Participants were exposed to visual stimuli that presented them with a series of picture pairs that varied in interpersonal emotional content (e.g. threatening, distress, positive emotions, and neutral pictures). The task had three phases: (1) a half-second fixation on a cross appearing at the centre of the screen, (2) a half-second exposure to two picture stimuli that were centred with one on top of the other, and (3) an asterisk appearing either at the top or bottom of the picture. Participants had to reactively indicate where the asterisks were (top or bottom). The hypothesis was that emotionally loaded pictures would direct more attention initially, which would consequently shorten the amount of time needed to correctly name the position of the asterisks in phase 3. Those who scored high on callous/unemotional traits and conduct problems showed a slow response rate to distress pictures compared to other participants. Those who scored low on callous/unemotional traits and high on conduct problems showed an increase in response rate to distress pictures. Furthermore, CU traits predicted proactive but not reactive aggression, suggesting similar results to the high links between adult PPD and instrumental aggression.

It appears as though lack of emotion attached with antisocial attitudes (or rule-breaking morality) does seem to distinguish a subset of children and adolescents who have more problem behaviour, but additional research is needed as to which of these (unemotionality or callousness) is the driving force behind this differentiation and which of these (if any) develops the other. In other words, does this lack of emotion develop a sense of antisocial attitudes or is social learning desensitising certain actions while the full breadth of emotions is still intact for other aspects of the individual's life? While the research focus is on antisociality alone, these remain hard questions to answer. Furthermore, although it can be agreed upon that distinguishing a subset of individuals at risk of future problem behaviour is important, it is less clear how this focus on behaviour predictability is a valid argument for it to be viewed as a core aspect of a personality disorder.

1.2.1.2. Impulsivity/irresponsibility dimension of PPD

One of the staples of PPD in adults that relates to antisocial behaviour and rule-breaking behaviour is the aspect of impulsivity, or in other words unregulated behaviours.

Many of the clinical assessments aiming to capture this factor are deduced from past behaviours, and these antisocial behaviours are therefore then evaluated and translated into a personality trait of impulsivity or irresponsibility. Although there are some reservations about this type of conceptualisation in adulthood, this application to a younger population becomes even more complicated. As self-regulation, impulse control, and engagement in risky behaviours seem to be common in childhood (Sandseter & Kennair 2011), concerns rose that a youth PPD conceptualisation integrating impulsivity would be over-inclusive, and false positive diagnoses would be more frequent (Seagrave & Grisso 2002; Skeem & Cauffman 2003). This is still a concern.

In some studies that examine childhood PPD, conduct problems are incorporated into the measurement of impulsivity (e.g. Barry et al. 2008; Dadds et al. 2005). Similar to callous/unemotional trait research, this makes it challenging when trying to untangle the implication of impulsivity in relation to rule-breaking behaviour. It also makes it difficult to understand the stability of psychopathic traits over time, as macro level analysis supporting stability in these measures could be attributed to either impulsivity or conduct problems. While taking this into consideration, research has supported that impulse control in childhood predicts impulse control in adulthood (Lynam et al. 2007), where overall PPD scores at age 13 were predictive of the impulsive lifestyle facet score of PPD at age 24. Impulsive/antisocial measurements also showed stability over time from adolescence to adulthood (Blonigen et al. 2006). Stability in the impulsive/irresponsible measurements has been supported as well from late adolescence to early adulthood (Forsman et al. 2008).

Impulsivity as a developmental disorder in the form of attention deficit/hyperactivity disorder (ADHD) and its relationship to rule-breaking behaviour has also been investigated. ADHD is prevalent in the general public and ranges from roughly 3% to 9% (Spencer et al. 2001), while the prevalence varies greatly (from 4% to 72%) in referred adolescents (Timmons-Mitchell et al. 1997; Vermeiren 2003). It has also been suggested by Lynam (1996) that high ADHD and conduct disorder may be a precursor to adult PPD. He goes on to add that the relationship between ADHD and PPD is most likely mediated by conduct disorder. Colledge and Blair (2001) conducted research on the relationship between ADHD and psychopathic traits in boys measured by teacher ratings. ADHD significantly related to callous/unemotional traits and impulsivity/conduct problem scores. Yet, this relationship between ADHD and

callous/unemotional traits was non-significant when controlling for impulsive/conduct problems, which supports Lynam's (1996) argument that the comorbidity of ADHD and conduct problems leads to PPD in later life. However, this comorbidity of ADHD and conduct problems to influence future PPD scores was not consistently found. The interaction effect of ADHD and conduct disorder was non-significant to adult PCL-R scores (Abramowitz et al. 2004).

With regards to aggression in childhood, a negative relationship with self-regulation in children as young as 17 months has been supported (Tremblay et al. 2004). Difficult temperament, based on mothers' ratings of their infant's behaviours five months after birth, was predictive of a high physical aggression trajectory group from 17 to 42 months of age. Another study from Nagin and Tremblay (1999) that looked at pathways to physical violence and general delinquency found that hyperactivity at six years of age did not lead to higher levels of physical aggression during secondary school when controlling for six-year-olds' physical aggression and callousness. Nagin and Tremblay stressed the importance of considering these two concepts when evaluating the link between hyperactivity and delinquency. They added that many of the most antisocial boys were not among the most impulsive and also that the most chronically impulsive were not chronically antisocial. Taking into consideration the lack of emotion and antisocial nature of the boys is important in order to understand the nature of the relationship between impulsivity and rule-breaking behaviour.

1.2.1.3. Grandiose/manipulation dimension of PPD

The final main factor considered to be part of PPD is this aspect of grandiose/manipulation. Interestingly, unlike the research on the lack of emotion and impulsivity, research in this area normally focuses on parenting and the influence of the parent's mind set in predicting interpersonal manipulation or narcissism in adolescents and early adulthood. Out of all three of the factors, the emphasis here is less on drawing a connection between it and antisocial behaviour.

Support has surfaced for parental affection (Horton & Tritch 2014) and parental behaviours (Horton et al. 2006; 2014) as an influence on a child's narcissism. Furthermore, lower levels of parental monitoring and affection have also been related to increased narcissism in children. Interestingly, both parental affection and parental

coldness have been positively related to narcissism (Horton 2006; Otway & Vignoles 2006). Manipulation has also been reported to be related to parenting style. Jonason and colleagues (2014) found a link between dysfunctional attachment to parents and low quality of parental care. The theories behind these links are tenuous; however, one theory brought forth is the aspect of survival. Manipulation might be a reaction to these stressors during childhood, and this could potentially lead to a "whatever it takes" approach to life (Jonason & Webster 2012: 2), although this is not extensively researched.

One longitudinal study that has looked at narcissism emerging in childhood and throughout adulthood found that at age three, narcissism was predictive of manipulation and exploitation of others at age 23 (Cramer 2011). It should be noted that the capture of narcissism at age three in this study was based on behaviours which may have overlap with impulse control. Particularly at such an early age, a concept like narcissism seems extremely hard to measure and even conceptualise. This is supported by developmental research showing that by age eight, children have acquired a perception of self-worth (Harter 1990). In regards to bullying behaviour, narcissism interacted significantly with theory of mind (Stellwagen and Kerig 2013). Importantly, this research showed that narcissism mediated bullying behaviour. In adolescents with high narcissism, the relationship between theory of mind and bullying was positive, while this relationship was negative for individuals with low narcissism. In a similar study, narcissism was also related to both relational aggression and proactive aggression in a non-referred forensic sample of children (Kerig & Stellwagen 2010).

Low self-esteem has also been constantly shown to have a connection to adopting positive attitudes towards delinquent behaviour and to be associated with delinquent peers (Brendgen, Vitaro, & Bukowski 1998). However, Barry, Frick and Killian (2003) stress to not see self-esteem and narcissism synonymously. They argue that narcissism may be viewed as a coping mechanism to mask feelings of inadequacy even in early adolescence, and their results further supported this hypothesis and indicated that certain narcissism items (i.e. the need to be evaluated well and hold status over others) were predictive of low self-control. Furthermore, self-esteem moderated the relationship between narcissism and rule-breaking behaviour, such that adolescents with low self-esteem and high narcissism reported the highest rates of rule-breaking behaviour.

More recent research on the topic has found that pathological forms of deceptiveness may emerge in early development. Assary and colleagues (2015) investigated interpersonal traits in pre-schoolers and found that these traits were strongly related to conduct problems at this age. Deceitful behaviours in toddlers as young as two years old have been researched (Waller et al. 2012). However, it should be noted that the accuracy of how interpersonal styles in two-year-olds predict interpersonal styles in adulthood has not yet been well assessed.

Individuals with PPD are normally considered to be manipulative, arrogant, glib, and narcissistic in adulthood. Although these types of behavioural tendencies have been found to be robust in the adult conceptualisation of PPD, issues surrounding its possible downwards extension to adolescence were not assumed. According to Stouthamer-Loeber (1986), lying is one of the earliest forms of deviance in childhood, and concerns over the normativity of lying and manipulation in adolescence have been raised. However, Stouthamer-Loeber goes on to argue that lying diminishes in frequency and prevalence as children age, and those who continue to chronically lie have higher associations with rule-breaking behaviour.

Of the three factors (emotionality, impulsivity, grandiosity) characterising the conceptualisation of PPD, this last one seems to have the weakest relationship to rule-breaking behaviour, and consequently much of the research on this topic moves away from this association. From this, it does seem as though the coherency within the factor is more consistent across studies and that nuances within this area of research are easier to understand. This is because the difference in results across studies is more a conversation of variation of effect than a conversation of flipped directional associations, which is more readily seen in CU and impulsivity research, which itself varies with the emphasis of an assumed morality.

1.2.2. PPD in females

Although it appears that PPD in childhood and adolescence resembles PPD in adulthood, many of these studies focus on males (Andershed 2010). To date, this relationship between youth and adulthood has been under-researched for females, and therefore the PPD concept is less concrete in this population. It should also be stressed that many of the behaviours expressed in PPD (e.g. impulsivity) are quite normative,

depending on the developmental period (Stouthamer-Loeber 1986) and if not accurately controlled for can lead to inaccuracies in predicting PPD in adolescence regardless of sex. Andershed also stresses that research on the stability of youth PPD to this point is at a macro level and that at the individual level it is still difficult to know the risk of stability from adolescence to adulthood.

Similar to the study of PPD in children and adolescents, the study of PPD in women was all but ignored until relatively recently. This is apparent, as most of the theoretical knowledge and creation of measures were validated by male samples (Verona & Vitale 2018). Although two of Cleckley's original 15 patients in his book *The Mask of Sanity* were female, there was little emphasis in his analysis on deconstructing their symptoms based on gender. Consequently, due to this lack of emphasis and research on gender differences, criticism exists about its validity and usefulness in understanding females. Although research into the expression of PPD in females has increased since the 1900s, some are still wary that the concept is shoehorned for females. Widom (1978) was one of the first to examine whether female prisoners would fit Cleckley's PPD concept. One important distinction was made: there was a lower prevalence of females who fit the criteria of PPD in the study compared to what is normally found in a male sample, showing that the expression of PPD is rarer in females than in men. Schrum and Salekin (2006) found that the most discriminating feature between adolescent female offenders who did and did not have PPD were interpersonal items such as lack of empathy, manipulation, and grandiosity. The least discriminating were behavioural items such as poor anger control and violation of conditional release.

During the time period when the PPD relevance to females was gaining interest, the PCL-R was the dominant assessment measure used. Consequently, much of the early work on this topic was focused on evaluating whether the reliability and factor structure of the PCL-R could be replicated in a female sample (Verona & Vitale 2018). Factor 2 (deviant lifestyle) scores of the two factor model of the PCL-R showed an association with other personality disorders and substance use for females. Warren and colleagues (2003) reported significant levels of ASPD, borderline, histrionic, and narcissistic associated with Factor 2 scores. Overall, internalising disorders and self-harm have been linked to adolescent and female PPD more than in male samples (Sevecke et al. 2009; Verona et al. 2012). Neuroticism, anxiety and worry have all been linked to PPD scores as well (Salekin et al. 2005). Moreover, females are less likely to show higher rates of

ASPD compared to male prisoners (Fazel & Danesh 2002). While investigating comorbidity of substance use and PPD, higher Factor 1 scores on the PCL-R were shown to be viewed rather as a protective factor and reduced substance use, while higher scores on Factor 2 on the PCL-R showed higher rates of substance use in females (Schulz, Murphy, & Verona 2016).

Forsman and colleagues (2008) investigated the stability of traits from mid to late adolescence in females. Test-retest correlation from ages 16 to 19 showed the strongest stability for the impulsive/irresponsible dimension, while grandiose/manipulative and callous/unemotional also showed moderate to high stability. Conclusions were made that at a mean level, all three factors of PPD were constant over the three years in females. Furthermore, gender differences indicated that over the three-year period, male scores on grandiose/manipulative and callous/unemotional increased slightly, while female scores stayed constant over the same period. The impulsive/irresponsible dimension, however, showed an increase for both genders, although this increase was more pronounced for males.

Continuing to compare gender differences in youth PPD, Pechorro and colleagues (2013) found that referred female adolescents showed fewer callous/unemotional traits, less self-reported delinquent behaviour, and lower crime seriousness compared to referred males. Females were more prosocial and reported more emotional symptoms compared to adolescent males. The Edens and colleagues (2007) meta-analysis presented in the previous section also investigated the predictability power of adolescence PPD in females on recidivism. Results showed that effect sizes for PPD scores for adolescent females were not predictive of general and violent recidivism (Edens et al. 2007). However, to date, only five studies have reviewed this predictive relationship, and the sample sizes were small. Edens and colleagues concluded that these results were discouraging due to their inability to predict recidivism and questioned the usefulness of the concept for this population. This is a clear example of how the two conflicting objectives of PPD can lead to the belief that prediction of recidivism is a valid way to test a personality disorder's validity.

The relationship of PPD to conduct problems has also been investigated in a non-referred female sample. When measuring hyperactivity/impulsivity, scores were positively associated with conduct problems; however, they were not related to

callous/unemotional behaviours (Hipwell et al. 2007). Hyperactivity/impulsivity was also not explained by the interaction between conduct problems and callous/unemotional behaviours. This interaction, however, was significantly related to an increase in general anxiety and panic/somatic anxiety. Recent research also shows that females who score high on PPD experience higher rates of psychopathology. Lifestyle/antisocial scores have been related to a higher rate of paranoid personality disorder (Warren et al. 2003). Schulz and colleagues (2016) also found higher rates of substance use compared to males. Interestingly, this research showed discrepancies between substance use and factor scores on the PCL-SV. Factor 2 scores were associated with an increase in substance use, while Factor 1 scores were related to a decrease in substance use. PPD was therefore concluded to be a paradoxical protective/risk factor towards substance use. This interesting link between the two needs more examination in future research.

As PPD research has mostly focused on adult males (Falkenbach et al. 2003), how this conceptualisation applies to female adolescents and adults is of course controversial and needs to be verified (Verona et al. 2010). Although to date research does show similarities in the factor structure of PPD in females, there is still room for improvement in how it discriminates between females with PPD and females without PPD (Kreis & Cooke 2011). Furthermore, research calls PPD's predictive power over future conduct problems into question for females, as a weaker link to violent and general recidivism in an adult sample and to conduct problems in an adolescent sample has been supported.

1.3. Chapter summary

1. What are we trying to explain with the conceptualisation of PPD?

Contemporary PPD research has been heavily influenced by PPD's relationship to criminality and its strength in predicting general and violent recidivism for adults and young offenders. Consequently, PPD is conceptualised by many correlates of crime, and this chapter questions their relevance in understanding the true nature of PPD. The field's focus on predicting crime and risk factors as a method of developing the underpinning cause of the disorder has led PPD to represent a distorted personality disorder/risk factor. A disorder must be developed towards a single objective, although currently PPD has two (personality disorder & predicting recidivism). This "fork in the road" creates

confusion and disagreements about the definition of PPD, which in turn leads to (1) a misunderstanding of how to properly conceptualise PPD, (2) distorted conclusions about how we understand and measure behaviours in relation to personality, and (3) Conclusions of an unquestionable, predetermined motivation to rule-breaking behaviour for individuals with PPD. For these reasons, PPD is better understood when broken down into dimensions. These PPD dimensions should be defined (1) as tendencies to behave rather than by specific acts/behaviours themselves and (2) viewed independently from a predetermined antisocial morality.

2. Where are we now?

In summary, the broad conceptualisation of PPD seems to encompass heterogeneity. The emphasis on developing a personality based on its ability to predict rule-breaking behaviour is common in the field of PPD. However, this limits our coherent understanding of the disorder and over-includes characteristics and correlates (e.g. behaviours/rule-breaking morality) within the definition. This should really be further scrutinised. Caution must be exercised and an oversimplified conclusion avoided so as not to misconstrue a much larger social issue as a form of personality disorder that puts the onus on the individual. By viewing behaviour solely as an outcome of personality, the objective of prediction seems a reasonable objective, but people do not behave in a social vacuum, and understanding our behaviours based on an individual approach without the proper context and frame of reference leads to false conclusions and stigmatisation of the individual. Not only does it disrupt our understanding of the true etiological nature of PPD, but it misleads us in our identification of the root cause of behaviour. As stressed at the beginning of this chapter, the argument is not to refute the relationship between PPD and rule-breaking behaviours but to question whether this prediction of rule-breaking behaviours is of primary importance to shape the development of PPD.

3. The need to integrate PPD into criminological theories

Integrating PPD within a criminological theory would further our understanding of why PPD is related to future rule-breaking behaviour and remove unwanted correlates

from the conceptualisation. This would help relieve the strain currently put on PPD to be both a personality disorder and a predictor of future behaviour. Furthermore, understanding how the different dimensions of PPD (lack of emotion, impulsivity/irresponsibility, and grandiose/manipulation) interact in explaining rule-breaking behaviour is also integral to the field. PPD is not a unitary construct, and to better explain behaviour, the features of PPD must be examined individually instead of aggregated into a single score. While it might be useful to measure PPD as a single unit in predicting future behaviour, each component of the disorder needs to be examined separately in order to understand where it fits into a criminological framework that explains rule-breaking behaviour. It would be a serious oversight to assume, for example, that a personality feature such as lack of empathy and a behavioural tendency like impulsivity would go hand in hand in a theoretical framework. With this consideration, the factors/dimensions of PPD will be reviewed independently from one another in this thesis. This will be developed in the next chapter (Chapter 2).

Chapter 2: Integrating Psychopathic Personality Disorder into a criminological theory

In this chapter, the idea that Situational Action Theory (SAT) can help better shape the conceptualisation of Psychopathic Personality Disorder (PPD) is developed. As argued in the previous chapter (Chapter 1), PPD currently has two main objectives, one of which is to predict (or explain) rule-breaking behaviour. However, developing a personality disorder in light of this is an oversimplification of how people are moved to behave. Therefore, to better understand how PPD actually leads to rule-breaking behaviour, it is integrated into a Situational Action Theory framework. Based on this, it is possible to view individuals with PPD as those having pronounced crime propensity. Crime propensity is acknowledged in SAT as being the personality characteristics relevant to criminal behaviour; however, SAT also stresses the importance of viewing each component of crime propensity independently from one another, as they play different roles in the process leading to behaviour. Furthermore, SAT does not justify crime propensity as a personality disorder solely on the argument that it is important to criminal behaviour. Breaking down PPD is a more natural way of understanding the etiology of its components.

How experts view Psychopathic Personality Disorder (PPD) has been evolving since it became clinically relevant, and it would be unrealistic to believe the current conceptualisation will not continue to evolve. This progression has already been hinted at with the shift from a two factor model seen originally in the Psychopathic Checklist – Revised (PCL-R), which incorporates criminal and antisocial behaviours, to a three factor model, which does not include these behaviours, and more recently the introduction of the Comprehensive Assessment of Psychopathic Personality (CAPP), which aims to offer a clearer definition and measurement (Cooke et al. 2012). Although behaviours are less deterministic of the conceptualisation of PPD than in the past, measurement issues surrounding behavioural biases are still present. Even in the three factor model, behaviours are used to determine item scores, and although personality and behaviours are linked, the heterogeneity of behaviours makes it difficult to reverse translate PPD into personality tendencies. This overemphasis on the link between personality and behaviours has raised issues surrounding the morality of the individual. The previous chapter (Chapter 1) raises concerns over PPD's problematic dual objective: (1) to describe coherent personality characteristics and (2) to develop a set of personality and behavioural characteristics that predict (or some argue explain) rule-breaking behaviour and criminal behaviour. The importance of PPD's ability to predict criminal behaviour is well recognised, as some have even argued that PPD is the single best predictor of violent offending (e.g. DeLisi 2016; Douglas et al. 2006; Harris et al. 2001). Consequently, these two distinct and separate objectives pull the conceptual development of PPD in two separate directions.

Although the terminology of morality is no longer a focus of contemporary PPD research, there are still undertones of moral deviancy—in other words, an individual being motivated to be "bad" or antisocial. This can be seen in the way current conceptualisations capture PPD. This predictive value over general and violent recidivism also helps push this notion of inherent deviance. Although there are debates about whether antisocial behaviours are integral to the disorder or a mere consequence of it, antisociality is still in the picture in terms of the projection and understanding of the disorder. This emphasis becomes even more apparent when one considers that predicting antisocial behaviour is used as a way to validate conceptualisations of PPD.

If there is anything to take away from this, it is the question raised in chapter 1 – ***What are we trying to explain with the conceptualisation of PPD?*** There is clearly a

diverging path being created that focuses on the risk factor value of this personality disorder while neglecting to find the true natural expression of PPD (if one actually exists), regardless of moral deviancy. This emphasis on risk assessment consequently leads PPD to be viewed as an aggregate score needed to predict rule-breaking behaviour rather than as what is actually a personality disorder. Of course, the health and safety of society is important, but this should not be considered a viable criterion or method to define a personality disorder. Viewing PPD as a disorder leading to violence and criminal behaviour implies a certain deterministic direction, and this assumption should regularly be re-evaluated. This emphasis on moral deviance, as Gunn (1998) stresses, moves us away from understanding the real etiological problems affecting the individual. It is therefore important to retreat from an assumed morality motivated towards rule-breaking behaviour, which is common in the current literature, and aim to view PPD dimensions without motives.

The drive in the field to understand the relationship of PPD to antisocial/rule-breaking behaviour will likely always be present. The aim of this thesis is therefore not to argue against researching this association but rather to stress that the link can be better understood within a criminological framework where the correlates of crime can be properly assessed and where the morality/motivation of individuals with PPD is not predetermined. This is what this chapter attempts to do. While reviewing the personality characteristics in Situational Action Theory (SAT) leading an individual to engage in criminal or rule-breaking behaviour, overlaps can be found between PPD and SAT. Individuals with PPD can be argued to be those who fall on the severe end of crime propensity, leading them to be more susceptible to criminogenic exposure in the environment compared to individuals with lower crime propensity (Wikström et al. 2012) and in turn commit more crime. Starting to view PPD as pronounced crime propensity leads to three insights:

1. An appreciation that a statistical relationship to criminal behaviour is not a strong enough argument to define a personality disorder, nor is it a valid reason to assume that the PPD components have the same etiology.
2. A re-structuring of PPD components which view an individual's morality separately from PPD dimensions.

3. An understanding of the processes that bring about criminal behaviour and which realistically gage the role of the individual and PPD components by including the criminogeneity of the environment in a situational model.

This integration will help refocus the field's attention on the objective of developing/refining PPD as a personality disorder, regardless of its relationship to crime. As Blackburn (1988: 511) stresses:

This is not to argue that socially deviant behaviour is unrelated to personality characteristics, but the nature of such relationship is a question for theory and research. To define a disorder of personality in terms of socially deviant behaviour is to prejudge the issue. Our understanding of how the attributes of the person contribute to socially deviant or other problematic behaviour will only progress when we have an adequate system for describing the universe of personality deviation. Focus on an ill-conceived category of psychopathic personality has merely served to distract attention from the development of such a system.

The drive to view PPD as a predictor of criminality has led to a predetermined rule-breaking morality being included in its conceptualisation. SAT, a theory of crime causation, helps to differentiate the role of morality and personality dispositions. Morality in an SAT framework is defined differently and is viewed as a standalone concept that can interact with PPD. According to SAT: "Morality is not only a question about what rules of conduct a person holds, but also how much he or she cares about adhering to specific moral rules" (Wikström et al. 2012: 14). SAT complements the concerns raised by Ronald Blackburn and John Gunn about the PPD conceptualisation and helps advance the understanding of the relationship between PPD and rule-breaking behaviour when morality is separated. Essentially, SAT argues that all individuals, even those with PPD, are rule-guided actors, and to understand someone's actions, this perspective needs to be emphasised, rather than viewing individuals as motivated by self-interest. Each individual is guided by a unique set of moral rules that are anchored to specific moral emotions. The individual's propensity to commit a crime is primarily guided by the strength of the moral emotion to that relevant moral rule. Viewing how emotions link to rules of conduct and vary within an individual becomes as important as viewing how emotions vary between individuals in furthering the understanding of rule-breaking behaviours.

Although the focus is on an individual level in this study, SAT is a much larger theory which not only looks at individual and environmental factors but also at the convergence of the individual and setting in understanding what frictions and situational factors move individuals to behave. However, due to the limited scope of this thesis and the lack of research building towards the integration of PPD into an SAT framework, focusing on an individual approach rather than an environmental or convergent approach is arguably a suitable starting off point.

2.1. How to integrate PPD into a Situational Action Theory framework

Defining PPD with two different universes of categorisation and viewing these individuals as morally antisocial leads to an incoherent conceptualisation. Integrating attributes characteristic of the environment and inherently assuming antisocial motivation can lead to false conclusions about treatment potentials (D'Sliva Duggan & McCarthy 2004). New research on behavioural treatment is suggesting that this is the case, especially when reviewing treatment potentials in adolescents (Brazil et al. 2016). Despite this, PPD has arguably become synonymous with the motivation to be antisocial, and arguments over PPD's link to being a societal nuisance trigger a sense of punitive response and consequently a rejection from treatment (Gunn 1998).

An SAT perspective would argue that individuals with PPD do not differ from us in kind. In other words, there are no sharp borders, and individuals with PPD arguably fall on the high end of the crime propensity spectrum. Viewing the world as either psychopath or non-psychopath is disregarding the complexity of the human mind and falls into the realm of reductionism (Walters 2004). As humans, we fall along a spectrum of affective deficiency. If individuals with PPD commit crimes, they do not do so because they are etiologically different. SAT would suggest that these individual characteristics lower the threshold needed to behave criminally within certain settings, although this alone does not cause crime. Personal characteristics such as a lack of morality and an inability to exercise self-control (deliberation) are the individual factors related to breaking rules, while the moral context and rule enforcements are contextual factors influencing the outcome of crime.

While some individuals with PPD do commit terrible crimes such as murder, sexual assault and armed robbery, they do so by the same principles that affect us all. The

individual difference between us is our threshold to perceive criminal behaviour as a viable option in situations and our ability to exercise self-control over these perceived viable criminal behaviours. Hypothetically, all of us will behave or at least perceive criminal behaviour as a viable option given a situation tailored to our individual threshold for crime. Individuals with PPD are not a league apart, but a threshold apart. Some may have a lower threshold for crime, and it may therefore take a lower amount of criminogeneity in a setting for them to perceive criminal behaviour as a viable action alternative compared to pro-social behaviour.

It is this perception of crime as a viable action alternative, based on an individual's morality, that is the initial part of the mechanism influencing a person's behaviour. For PPD to be related to crime, by default PPD dimensions must interact with morality. Until now, due to its tautological nature in having deviant behaviour integrated into the concept, PPD was viewed as a primary influencer of deviancy.

2.1.1. The overlap between PPD and SAT

According to PPD, Callous/unemotional traits, Impulsive/irresponsible dimension, and Grandiose/manipulation dimensions are all aggregated into a single etiologically formed personality disorder (Figure 2-1). Although they may be statistically related to one another and to criminal behaviour, this does not guarantee that they should be aggregated and viewed as a single concept, nor should they be considered to be a personality disorder. It is hard to understand how these components of PPD are linked if you remove the objective of criminal behaviour, which leads to the argument that these components are better understood separately as personality characteristics instead of aggregated together as a personality disorder. Unfortunately, this model does not explain why even the most crime prone people are not committing crime continuously. While tracking crime rates, those with the highest crime propensity in the highest criminogenic settings committed 13.9 crimes per 1,000 active hours (Wikström et al. 2012). This aspect of focusing on a personality disorder is too much of a simplistic model to explain this frequency.

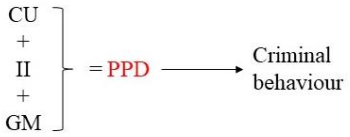

Figure 2-1: Three factor conceptual model of PPD and how it leads to criminal behaviour

Note. PPD= Psychopathic Personality Disorder. SAT= Situational Action Theory. CU= Callous/Unemotional. II= Impulsive/Irresponsible. GM= Grandiose/Manipulative.

This is the case for how SAT views and fits personality characteristics into a theoretical framework of behaviour causation. Although it labels crime propensity as the important personality aspects leading individuals to engage in criminal behaviour, it continuously stresses the importance of viewing and understanding each personality characteristic under crime propensity separately (Figure 2-2). Furthermore, SAT does not view these characteristics as a single personality disorder solely on the basis that they are the important personality characteristics leading to criminal behaviour.

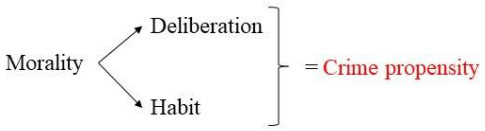

Figure 2-2: Personality-relevant characteristics leading to criminal behaviour as per SAT

According to SAT, those with more pronounced crime propensity, such as individuals with PPD, have a lower threshold to criminogenic environments, leading these individuals to be susceptible to more subtle cues. This sensitivity to criminogenic exposure may be a reason why the field of PPD has forgotten the role of the environment

over the years. However, neglecting the role of the environment altogether leads to a misrepresentation of the influence of personality over behaviour. Figure 2-3 displays the differences between how PPD and SAT view the source of criminal behaviour. In this figure, you start to see certain similarities between PPD and crime propensity. Each of their components can overlap (e.g. Callous/Unemotional traits & morality; Impulsive/Irresponsible dimension & deliberation, morality; Grandiose/Manipulation dimension & deliberation, morality); however, crime propensity emphasises the importance of morality as its main personal component leading to deliberation or habitual behaviour at times irrelevant to criminal behaviour.

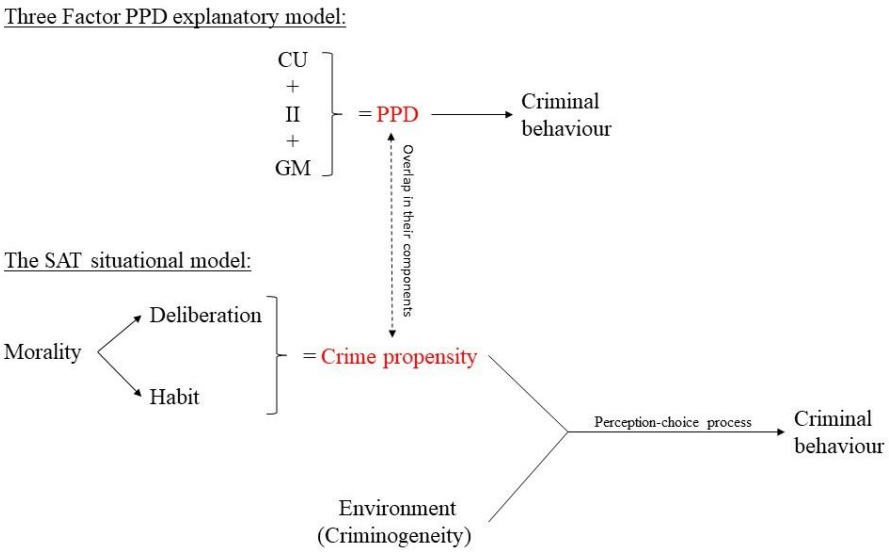

Figure 2-3: Comparison between the PPD model and the SAT model

Note. PPD= Psychopathic Personality Disorder. SAT= Situational Action Theory. CU= Callous/Unemotional. II= Impulsive/Irresponsible. GM= Grandiose/Manipulative.

There are several overlaps, which suggests that individuals with PPD are similar to those who would have a high crime propensity. SAT helps decipher the process leading to rule-breaking behaviour. Instead of aggregating components relevant to rule-breaking behaviour and conceptualising it as a personality disorder, SAT views each element of crime propensity as importantly separate *personality characteristics* which all play a part

in moving someone to behave (Wikström 2017; Wikström et al. 2007; 2012). These personality characteristics, however, have separate parts to play and are not viewed as a single personality disorder solely due to their link with rule-breaking behaviour.

The overlap between Callous/unemotional traits and morality: CU traits are broken down in the YPI by Remorselessness (e.g. To feel guilty and remorseful about things you have done that have hurt people is a sign of weakness; I have the ability not to feel guilt and regret about things that I think other people would feel guilty about); Unemotionality (e.g. I don't let my feelings affect me as much as other people's feelings seem to affect them; what scares others usually doesn't scare me); and Callousness (When other people have problems, it is often their own fault, therefore, one should not help them; It's important to me not to hurt other people's feelings (reverse coded)). Morality defined by SAT "is not only a question about what rules of conduct a person holds, but also how much he or she cares about adhering to specific moral rules" (Wikström et al. 2012: 14). Therefore, lack of shame, lack of guilt and rules of conduct are all important components of morality. This is a big overlap between SAT and PPD.

The overlap between Impulsivity/irresponsibility dimension & morality and deliberation: By viewing individuals as rule-guided actors, impulsivity within the concept of PPD is better understood. SAT's focus is on criminality as a principle outcome of a person's morality, which deems one's ability to exercise self-control as sometimes irrelevant. Since some individuals view criminality as morally acceptable, there is nothing to control or deliberate. And since the key component to criminality is morality, the impulsive/irresponsible dimension is dependent on the rules an individual holds to be true. Consequently, what may appear as impulsivity may actually be the principle of morality disguised as one's ability to exercise self-control.

The overlap between Grandiose/manipulative dimension & morality and deliberation: Of the three factors (callous/unemotional, impulsivity/irresponsibility, grandiosity/manipulation) characterising the conceptualisation of PPD, this last one seems to have the weakest relationship to rule-breaking behaviour, and consequently much of the research on this topic moves away from defining it with this association. The subscales in this dimension are lying, manipulation, and grandiosity, which can arguably have aspects of morality and impulsivity within them. The components of the three factor model of PPD are messy, as they hold elements of both morality and self-control. This

leads to the concern that they are confusing when aiming to explain criminal behaviour. Viewing them in a different light and separating their element of morality and self-control could prove to be a better alternative.

2.1.2. The advantage of viewing individuals with PPD as rule-guided actors

SAT focuses on explaining the dynamic nature of criminal behaviour by moral action. Fundamentally, SAT is based on the notion that individuals are guided by rules rather than self-interest. This is not to be confused with the rule of law or a general rule set, which is uniform for every individual. These are unique sets of rules of conduct tailored to the individual. These individualised rules of conduct are labelled as an individual's morality by SAT. Moral actions are defined as actions guided by what is right or wrong to do in a particular circumstance (Wikström & Treiber 2009), and acts of rule-breaking are characterised as the breaking of moral acts as defined by the rules of the relevant institution. By viewing rule-breaking behaviour as moral action, all rule-breaking in all places can be explained. Breaching a rule of conduct is what all rule-breaking behaviour has in common, and therefore a theory that intends to explain rule-breaking or criminality needs to view it from this point of view.

With SAT, if an individual's unique morality is similar to the rule of law, then perceiving and deciding to behave criminally will most likely not occur. If the individual's morality deviates from the rule of law, there is more chance this individual will commit a crime. Of course morality is not the only factor in crime causation, and therefore there is no guarantee that an individual with morality which deviates from the rule of law will commit a crime. Other personal characteristics, such as self-control (deliberation), and social factors like deterrence or criminogenic settings interact with morality to lead someone towards or away from criminal behaviour. This will be expanded on later; for now the focus is on morality. It is also worth stressing that although SAT has certain similarities to rational choice theory, it does not neglect the role of habitual behaviour. This will also be further discussed later on.

Most action theories of crime tend to inquire why people act according to deviancy; SAT takes a different approach by aiming to understand how individuals first come to perceive deviancy as a viable alternative before ever choosing which action to take (Wikström et al. 2012). Where PPD assumes a motivation to behave antisocially, SAT

does not. As Wikström stresses, most people do not engage in crime, because they do not perceive a criminal action as a viable action in the first place. Although self-control is important, most people do not need to control themselves from committing a crime, because they simply do not view it as a behaviour to engage in. For example, no matter how little self-control an individual has, they will probably never steal from a shop because they will not even view this as an option. They will never have to resist and engage in controlling their urges to steal a high-priced item because there are no urges to control in the first place.

In order to understand the causes of crime or rule-breaking, the initial question to ask is "Why would people comply with or breach the rules of conduct?" (ibid.: 12). SAT does not judge whether the current rules of conduct in society are right or wrong but emphasises that these rules guide people in either engaging or not engaging in behaviours. Each individual is guided by a unique set of moral rules (i.e. what they perceive to be right and wrong).

What SAT brings to the field of PPD is the notion that the disorder in itself is not a direct influencer of crime and instead should be viewed as personal characteristics which can lead to crime. By integrating PPD within an SAT framework, it now becomes possible to view PPD in a more objective light. Individuals with PPD will most probably engage in more crime or rule-breaking behaviour compared to individuals with lower levels of PPD, however, understanding "why" is the aim.

PPD itself is not by default motivated to be deviant nor is it associated with pro-social behaviour. PPD does not automatically explain how an individual perceives an opportunity to commit a crime. The perception of deviance depends on contextual factors, personal experiences and preferences (Wikström et al. 2012). SAT is a framework which deconstructs the decision making process for an individual down to its basic elements. In doing so, we can understand the weakest link in the chain that leads an individual with PPD to have increased criminality. The benefit of this is to not assume the weakness lies within the personality itself. PPD may be more related to higher exposure to criminogenic settings leading to crime, to a flaw in perceiving deterrence, to a lack of emotional connection to moral rules, to a deficit in executive functioning leading to a decrease in the ability to exercise self-control, or to a deficit in executive functioning leading to more habitual behaviours hindering the decision making process. By viewing

PPD as it is currently, which automatically assumes antisociality, these causal pathways may not be properly identified.

2.1.3. The role of emotions in crime causation

The likelihood that an individual abides by their own set of moral rules depends on his/her moral emotions (how emotionally connected they are to following those rules; shame and guilt are the relevant emotions). Moral emotions are important, because some people may know right from wrong, but they may not hesitate to behave antisocially. How strongly they emotionally connect to rules of conduct will influence their decision making in breaching this rule. This has especially been noticed in previous PPD research, where emotional attachment to words or values was dampened for these individuals. Blair and colleagues (2006: 114) describe it as "They know the words, but not the music", while Cleckley (1941, 1976) labels it as semantic dementia, where individuals with PPD have an impairment to attach meaning to the world.

What has been neglected is the research on how emotions link to individual rules of conduct and vary within an individual. This is as crucial in understanding as viewing how emotions vary between individuals in furthering the gap in knowledge of rule-breaking behaviours. Moral emotions should be viewed as the strength attached to moral rules of conduct. Riding a bike through a red light, for example, is common, although people are aware of its unlawfulness. Many people do not feel much guilt or shame when breaching this rule of conduct, and therefore the act of riding through a red light, although illegal, is not emotionally charged. Compare this to shoplifting, where more people would feel higher rates of negative emotion breaching this rule of conduct. Understanding the variation of emotion depending on the rule of conduct within individuals is important, and this should be more emphasised in future research. Both an individual's moral rules and moral emotions make up their morality, and morality can be seen as a gatekeeper to a set of possible actions according to each situation, the initial filter. As human actions are rule-guided (Wikström 2006), individuals in a high criminogenic setting will act according to their relative morality. Those with prosocial morality will not perceive deviancy as a viable action, while those with morality conducive to certain crimes will view it as a viable action in certain criminogenic situations. The morality of one kind of rule-breaking behaviour is independent of others, as an individual might have rule-

breaking morality when it comes to substance use but prosocial morality against shoplifting.

In SAT, shame (feeling bad in front of others) and guilt/remorse (feeling bad in front of oneself) are the relevant moral emotions, and this lack of moral emotion in PPD would undermine the strength of the attachment an individual would have to his/her set of moral rules. Cognitive and affective empathy play a role in the ability to feel shame and guilt before the consideration of deviant acts. Cognitive empathy can be defined as identifying with another person's perspective, while affective empathy is feeling emotional congruence with another person's perspective (Trivedi-Bateman 2014). A lack of empathy hinders the consideration/judgment of others, making it unlikely for shame and guilt to arise. The ability of individuals with PPD to experience cognitive empathy has been supported, although a lack of affective empathy is common in the literature (Blair 2005; Dadds et al. 2009). Without affective empathy, an individual's identification of others' viewpoints may not result in an increase in shame and guilt (Trivedi-Bateman 2014).

SAT views emotions differently compared to the PPD and risk factor literature, which views them as generally unified. Emotions, as understood within the SAT framework, are flexible, and the strength of emotions varies between different moral rules. And although people experience many emotions in day-to-day life, the emotions linked to how we feel internally and how we worry other people will judge us depending on the situation in question are the ones relevant to rule-breaking behaviour. According to SAT, an individual's internal guilt and their perception of others shaming them associated with certain actions will shape the feasibility that an action will be acceptable or not acceptable. Research on rules of conduct and antisocial beliefs has supported a link with actual antisocial behaviour (Andrews et al. 1990; Stevenson Hall & Innes 2003). In a meta-analysis of the predictors of adult criminal behaviour, Gendreau, Little and Goggin (1996) found that an antisocial attitude supportive of an antisocial lifestyle was the strongest dynamic predictor of criminal behaviour. This is similar to how SAT views moral rules, although SAT emphasises the individual's prosocial rather than antisocial attitudes. SAT tries to understand the distance an individual's attitudes are from the social norm, whereas the risk assessment literature aims to understand how antisocial an individual is. The difference is subtle, and the discrepancy between the two only becomes more apparent when moral emotion is integrated. SAT suggests that the

lack of emotional connection to behaving in a prosocial manner can prompt an individual to deviate from social norms. It is this overflow of negative emotion that keeps us within the boundaries of socially acceptable behaviour. Wikström and Treiber (2009) explain that "many people, for instance, will accept that hitting someone is wrong (because it breaks a rule or has significantly negative outcomes), but some will experience shame and guilt if they hit someone (or even think about doing so) and therefore feel particularly strongly that they (and others) should not do so" (p.84).

SAT complements research on antisocial attitudes by indicating that the role of emotions is linked with these beliefs or moral rules. There is a direction to these emotions. They are linked with specific ideals an individual has, and rather than viewing an individual as lacking shame or guilt or having high levels of shame and guilt in a general sense, SAT argues that these emotions vary depending on the moral rules within an individual. While the PPD and risk assessment literature focuses on varying levels of emotions between individuals in explaining crime or rule-breaking behaviour, SAT stresses that the importance of the alterations of these emotions within individuals is as important in explaining the varying types of antisocial behaviours. Although individuals may have differences in their emotional 'baseline', emotions fluctuate depending on the different values.

It is argued that shame and guilt levels play an important role in restricting someone from viewing rule-breaking behaviour as a viable action to undertake (Tibbetts 2003). The logic behind this is that these emotions are painful to experience and therefore people try to avoid experiencing them. Logically, if rule-breaking behaviour will make an individual experience an increase of guilt and potentially more shame from others, that individual will be moved away from practising those behaviours (Tangney, Stuewig & Mashek 2007). Emotions are triggered by behaviours that cross the line of moral rules. Tibbetts (2003) argues that moral emotions are even more important in leading someone away from criminal behaviour than the severity and certainty of punishment. He adds that these informal constraints play a greater role in criminal decision making compared to the formal constraints such as deterrence originally viewed in rational choice theory.

Furthermore, the dynamic nature of emotions is better understood as varying within an individual as well as varying across individuals. Viewing shame and guilt as important emotions in predicting and understanding rule-breaking behaviour is nothing new (Blasi

1999). However, emotions cannot be truly understood independently. Together, the differing moral rules and the moral emotions of shame and guilt form an individual's morality. These are among the relevant personality characteristics leading an individual away from or towards perceiving rule-breaking behaviour as a viable action alternative. Table 2-1 shows examples of the association between moral rules and moral emotions. If an individual would feel high shame and guilt in breaking these rules, then theoretically this behaviour will not be considered in the decision making process, since morality is the initial filter in viewing behaviours as acceptable according to the situation at hand.

Table 2-1: The combined roles of moral emotions and moral rules in the likelihood of crime

Example	Moral emotion	Moral rules	Example situation	Likelihood of crime
1	Lack of shame & guilt	Rule-breaking moral rules	One does not think it is very wrong to steal something from a shop and does not feel guilt and shame (does not care about breaking the rule)	Likely
2	Strong shame & guilt	Prosocial moral rules	One thinks it is very wrong to hit someone and would feel shame and guilt for hitting someone	Unlikely
3	Lack of shame & guilt	Prosocial moral rules	One knows it is wrong to break a car wing mirror for fun, but does not feel shame and guilt (does not care about breaking the rule)	Dependent upon the moral context of the setting, and if relevant, self-control
4	Strong shame & guilt	Rule-breaking moral rules	[Unlikely situation – If one does not think it is very wrong to steal a phone from someone, they are unlikely to feel strong shame and guilt, i.e. to care about breaking the rule]	[Unlikely situation]

*Adapted from Trivedi-Bateman 2014

The way in which PPD views emotions is by each emotion expressing in a single way within individuals. PPD is focused on interpreting differences in relevant emotions such as fearlessness, remorselessness, and lack of empathy, to name just a few, and understanding how they vary between individuals. Furthermore, the way in which PPD measures and conceptualises emotions in regard to the disorder is by viewing emotions in isolation. Therefore, under PPD, an individual could be classified as having a general lack of empathy, for example; however, this is not specific to their actions. Consequently, assumptions arise that these individuals must therefore be remorseless towards every type of rule-breaking behaviour or feel no guilt at all. This creates inaccuracies in understanding behaviours, particularly when seeking to understand PPD in young people, where the disorder is linked with more affectivity than in adulthood (Salekin et al. 2018).

The strength of the emotional connect an individual holds towards their moral rules will dictate how likely they are to veer away from those rules. SAT understands that people are different, and therefore these rules of conduct are not to be confused with general social norms. Each individual holds rules of conduct they personally see as right or wrong, and some action alternatives are not even perceived due to their irrelevance to the environment. These moral rules may or may not be in line with the rule of law. If an individual holds little guilt or shame towards breaching a moral rule, they will be more likely to assess that breach of conduct as a viable action alternative. In regards to individuals with PPD who are viewed as having a lack of guilt or lack of shame, this may be the initial reasoning for why they frequently break rules of conduct. Although they personally view something as right or wrong to do, these rules hold no emotional charge and therefore are breached more regularly.

2.1.4. The situational nature of behaviours and the relevance of self-control

"It seems that impulsivity is, and always has been, a central or cardinal feature of Psychopathy. Indeed, depending on how broadly one construes impulsivity, it may be related to about half of all psychopathic symptomatology. It is difficult to imagine a psychopath who is not impulsive" (Hart & Dempster 1997: 218).

One key marking of PPD is the emphasis on impulsivity or disinhibition. Individuals with PPD are characterised as being irresponsible, impulsive, and prone to delinquency (Hart & Dempster 1997). In the PPD literature, impulsivity is argued to be a general personality trait that expresses itself in day-to-day life, while disinhibition is a general propensity toward problems of impulse control (Patrick, Fowles & Krueger 2009). However, these constitute a broader explanation of the likelihood of occurrence rather than a definition of what impulsivity or disinhibition entails. Although impulsivity/disinhibition is one of the key concepts characterising PPD, the definitions on this topic are hazy in the PPD literature.

There are three types of impulsivity normally associated with PPD (Hart & Dempster 1997). The first is impulsivity viewed as a tendency to commit harmful acts through a lack of foresight and long-term planning (Frosh & Wortis 1954). The second is impulsivity viewed as a type of temperament sensitivity: impulsive aggression (Barratt 1994). The individual would respond to stimuli in a habitually aggressive manner. The third type of impulsivity is the one most commonly researched in the PPD literature: impulsive character (Frosh & Wortis 1954) or lifestyle impulsivity (Prentky et al. 1995). Impulsive character is viewed as a more general personality trait contributing to criminal and antisocial behaviours (ibid.). Emphasis on an impulsive character is very prevalent in the literature, and therefore arguments tend to focus on this type of impulsivity.

Morality is the initial filter in the perception of viable action alternatives, and those with morality conducive to rule-breaking are argued to have a lower threshold in perceiving antisocial behaviour. As PPD is hypothesised to be those with higher crime propensity, by default a lower threshold in perceiving an action is obtained. A lower threshold increases the number of situations in which deviancy becomes a viable action. This in turn increases the likelihood of acting in accordance. Therefore, much of what is misinterpreted in the literature as a detrimental impulsive character might actually be an increased rule-breaking morality.

Trouble defining impulsivity is a recurring problem in the PPD literature. When developing the CAPP, uncertainty of the definition of impulsivity arose once more. In the end, the team decided to divide this broad feature of impulsive into four different symptoms: lacks planfulness, lacks perseverance, reckless, and lacks emotional stability (Cooke et al. 2012). From a concept that describes PPD with 33 symptoms, four of these

directly measure impulsivity. Furthermore, the 33 symptoms within the CAPP are organised into six domains, and three of these domains—Behavioural Domain (lacks perseverance & reckless), Cognitive Domain (lack of planfulness), and Emotional Domain (lacks emotional stability)—include an aspect of impulsivity.

This emphasis on impulsivity and how it is currently viewed in the PPD literature is similar to the General Theory of Crime (also known as the Self-Control Theory) developed by Gottfredson and Hirschi (1990). Self-control in this theory is seen as a personality trait that incorporates impulsivity, insensitivity, risk-taking and short-sightedness, which are persistent through life. Gottfredson and Hirschi argue that individuals are motivated by self-interest and the only reason why individuals differ in crime involvement is the vulnerability of temptations. Everyone is driven by self-interest, and the only reason we don't commit crime or act antisocially is due to our self-control. Those with low self-control fail to consider negative outcomes to their actions and fall victim to temptations. Gottfredson and Hirschi argue that low self-control is an outcome of poor socialisation. The role of impulsivity in PPD is similar to the General Theory of Crime. Although PPD does recognise the importance of callous/unemotional traits, it sees them as two distinct entities, with impulsivity having more influence on violence and antisocial behaviour. PPD has also been compared to the General Theory of Crime in terms of crime explanation. DeLisi and Vaughn (2012) argue that self-control, as conceptualised by Gottfredson and Hirschi, is "a softened abbreviation of psychopathy" (p. 69). In their view, low self-control is a watered down version of PPD, and those individuals with this disorder embody an actor who commits acts which hurt others (DeLisi 2009).

SAT counters this literature of the General Theory of Crime by stressing that self-control is important to crime causation; however, the role and definition of self-control in SAT is different. Unlike Gottfredson and Hirschi's theory, which views self-control as the main personality characteristic leading to crime causation, SAT is founded on the notion that people are rule-guided by nature and that an individual's morality is the starting point that filters out possible actions the individual perceives. This morality base not only leads to a better understanding of possible action alternatives, it develops an understanding of the role of self-control. Whereas the General Theory of Crime views self-control as a personality trait which is always relevant to crime, SAT's view is that self-control is better understood as a situational concept that may or may not be relevant

to crime. Furthermore, SAT differentiates between the situational nature of self-control and an individual's ability to exercise self-control. Wikström and Treiber (2007) stress that "exercising, or failing to exercise, self-control is part of the process of choice when an individual responds to environmental stimuli; an individual will respond to different environmental stimuli with varying degrees of self-control, hence self-control is a situational concept, not an individual trait" (p. 243).

Wikström and Treiber agree with Gottfredson and Hirschi that individuals vary in their ability to exercise self-control, but this is very different from the actual situational exercising of self-control. Wikström and Treiber refer to the executive capabilities which characterise an individual's ability to exercise self-control. However, whether this ability to exercise self-control is relevant and active in the decision making process lies within their morality and whether they deliberate over viable action alternatives. Figure 2-4 displays this perception-choice process (Wikström et al. 2012). Failing to exercise self-control inherently means that the individual deliberated between at least two actions. If the individual views only one viable action alternative in a situation, then no deliberation occurs and consequently self-control is not relevant.

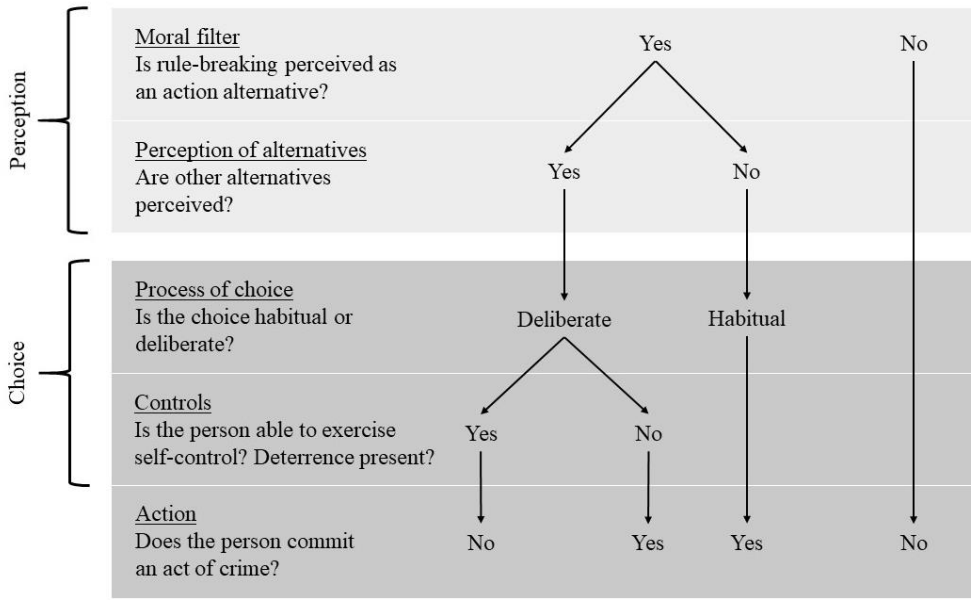

Figure 2-4: Parts of the perception-choice process explained by SAT

Wikström and Treiber add that the executive functions that enable an individual to exercise self-control are the same or similar to those enabling someone's ability to perceive deterrence cues. This may be one reason why PPD is so heavily linked with an impulsive lifestyle:

"Executive capabilities allow individuals to perceive environmental cues based on their *relevance* to an action decision rather than on their salience, therefore individuals with executive deficits may be more susceptible to salient environmental cues such as temptations and provocations (motivators) and overlook more subtle deterrent cues (inhibitors). They may also misjudge the value of those deterrents and the impact they may have on the outcome of particular action choices, or fail to bear in mind information previously gleaned about deterrents and the predictable consequences of choosing particular alternatives for action. We thus suggest there is an interaction between an individual's ability to exercise self-control (executive capabilities) and the influence of deterrence: the weaker an individual's ability to exercise self-control, the stronger the deterrent cues must be to be a factor in the process of deliberate choice (Wikström 2006b)" (Wikström & Treiber 2007: 250).

Take, for example, a situation where an individual walks past an unlocked bicycle and no one else is present. People will vary on which action alternatives they perceive, given the situation. Some will walk by, notice the unlocked bike, and due to their prosocial morality will worry about that bike being stolen, never considering stealing the bike themselves even if they need a bicycle. Some will walk past the bike and deliberate between stealing it and leaving it. Others will view stealing it as the only viable action alternative in this situation. In all three scenarios, self-control was only relevant for one. In the first scenario in which the individual does not view stealing the bike as a viable action alternative due to their pro-social morality, exercising self-control is not active. Since the action alternative of stealing a bike is not present, there is nothing to control against. In the third scenario, where the individual steals the bike without considering other potential actions such as not stealing the bike, self-control is not relevant, as this individual also views just one viable action, and no deliberation is present. Since they deem it acceptable to steal a bike and the moral context (setting's perceived shared rules of conduct; Wikström 2017) promotes stealing the bike, every aspect of the situation lends itself to promoting criminal behaviour. It is only in the second scenario that self-

control is relevant, as deliberation occurs between different action alternatives that may be viable. In the other two scenarios, there is nothing to control.

No matter how many times most individuals enter a shop or how many times individuals have an opportunity to, they will never need to stop themselves from shoplifting. This is the main reason why the majority of people do not commit crime, even if the opportunity arises. The ability to exercise self-control is the outcome of the interaction of an individual's executive functions and the settings in which they operate. Executive functioning is the relevant personal characteristic that can be defined as the set of cognitive faculties that allow an individual to create and use internal representations to guide his/her actions and decisions (Wikström & Treiber 2007).

2.1.5. Deliberation and habitual behaviours

In a number of cases, self-control is irrelevant to why an individual acts or doesn't act antisocially. Individuals act in accordance with social rules, not because they must continuously restrain themselves, but because they do not perceive crime as a viable behaviour. While from time to time they might need to use self-control, most human actions are guided by moral norms that we adopt and act on through habit. With no need to deliberate and therefore no need to use the ability of self-control, most actions are habitual. Self-control only comes into play when the individual has a choice, and this lack of differentiation between an individual's morality and self-control statistically and theoretically inflates the role of impulsivity in the diagnosis of PPD.

As suggested by Wikström and Treiber (2007), mechanisms behind an individual's actions arise from, firstly, perceiving their behavioural options in a given setting and secondly, choosing their behaviour. This is the fundamental difference between why some individuals behave antisocially while others do not. Individuals differ in the behavioural options they see as acceptable depending on the context and on how they act on those options. When in a setting, an individual will recognise certain realistic behaviours which are a direct consequence of his or her moral beliefs and the norms of the setting. In summary, the individual will either form an intention to behave (1) through rational deliberation in which they consider the implications of their actions or (2) through habit, whereby the individual sees only one behavioural option viable to the setting. Through habitual behaviour, individuals do not rationally deliberate their actions.

Habit comes out of familiarity with the setting, while unfamiliar settings tend to favour rational deliberation (Wikström and Treiber 2007). Logically, if an individual commits an action, antisocial or not, out of habit, they do so because they see only one viable behaviour and thus there is nothing to deliberate and consequently nothing to control. Several of our actions in day-to-day life are habitual, such as driving a car, reading, or brushing our teeth.

Therefore, Wikström and Treiber (2007) argue that the ability to exercise self-control is not always a necessary component in explaining rule-breaking behaviour. They illustrate this point well for antisocial actions with Figure 2-5 to Figure 2-7. In this example, the individual has two options available to them, either pay for the item in the shop or shoplift the item by putting it in their bag.

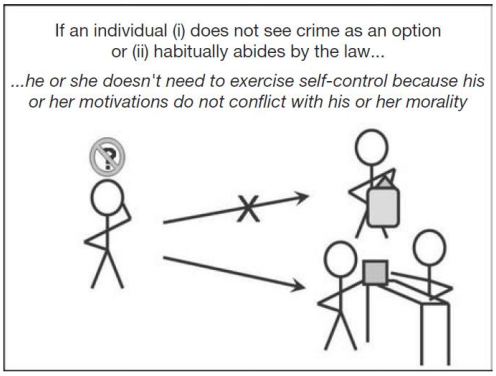

Figure 2-5: The role of self-control in the process of choice when the individual does not consider committing an act of crime.

*From Wikström and Treiber (2007)

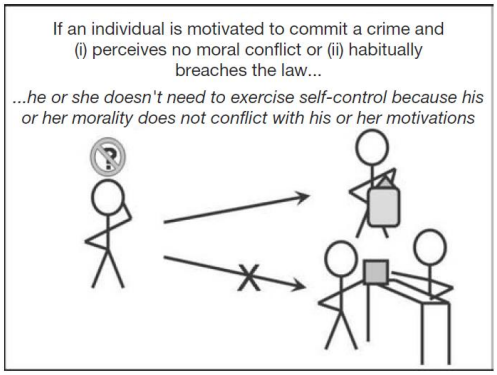

Figure 2-6: The role of self-control in the process of choice when the individual does not consider it morally wrong to commit an act of crime.

*From Wikström and Treiber (2007)

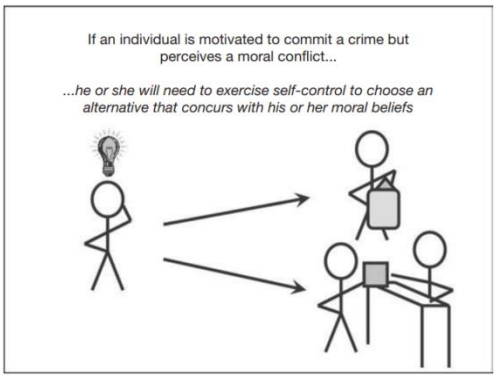

Figure 2-7: The role of self-control in the process of choice when the individual considers committing an act of crime.

*From Wikström and Treiber (2007)

Wikström and Treiber argue that self-control comes into play only when an individual deliberates whether to engage in criminal behaviour, unlike the PPD literature that finds self-control as an individual characteristic that moves people towards antisocial behaviours. Viewing this impulsive character as a cause prompting individuals to act impulsively is problematic, as it incorporates motivation into the definition. If anything, motivation should be part of the explanation and not the definition. In much the same way as deviancy is to PPD, to Wikström and Treiber, motivation (readiness to act) is the result of an individual's interaction with their current setting. Although certain personality features may influence impulsivity, it is necessary to distinguish this from actually acting impulsively. These motivations may come in the form of frictions and/or interferences or in the form of opportunities that may tempt the individuals into a goal-directed behaviour.

There might be some aspects of impulsivity incorporated in PPD, but it can also be argued that there is an overemphasis on this in the concept of PPD. We should be asking ourselves "What drives impulsivity?" Impulsive to what? Should we assume that individuals with PPD who are impulsive are inherently impulsive towards the socially undesirable or the taboos of life? No one is impulsive towards everything, nor is impulsivity subjective on its own. Impulsivity on its own is objective. One can be impulsive towards violence as one can be impulsive towards Saturday morning cartoons

or the Sunday Times crossword; it has no direction. In the PPD literature, impulsivity is already primed and subjective towards social deviance. It already assumes the subjectivity of PPD and that the motives of these individuals are malicious when impulsivity is researched.

2.2. Why PPD should not be viewed as a theory of crime in and of itself

"Extreme cases in which serious crime and PPD coexist, coupled with biased assimilation and illusory correlation, may explain why some scholars remain steadfast in their support of PPD as a major correlate, if not cause, of crime" (Walter 2004: 144)

When predicting crime, PPD is relevant. Although this study's arguments lean towards understanding PPD more as a personality disorder than a risk assessment, some believe otherwise. In his book *Psychopathy as Unified Theory of Crime* (2016), which focuses on individual characteristics, DeLisi even argues that PPD not only predicts crime, it explains it. PPD holds an extreme amount of descriptive power, as it is related to all types of offences and offenders. DeLisi maintains that the more psychopathic an individual is, the more severe and chronic the offending will be. He goes on to argue that PPD characteristics are elemental characteristics of crime itself. This includes selfish desire, uncaring violation of others, and lack of conscience. Unfortunately, this book lacks depth in explaining how PPD explains crime, as it primarily focuses on arguments that support a predictive model and not a causal model of crime. Yes, PPD predicts crime; in fact, it was designed to do that, but this book does not expand on how PPD leads an individual to crime, which PPD factors interact or move an individual to criminality, how an individual desists from crime, or why an individual with PPD refrains from crime in some situations but not in others. Even the most antisocial individual will behave pro-socially most of the time; no one is antisocial or a chronic offender around the clock. No matter how psychopathic one is, societal conformity is present. Although these are dilemmas that theoretical knowledge constantly strives to explain, two main limitations arise out of viewing PPD as a theory of crime: separating criteria from outcomes and the fundamental attribution error.

2.2.1. Separating criteria from outcomes in PPD

As the personality features currently understood under the label of PPD come from different etiological pathways and are located in different parts of the personality theoretical structure, it is unlikely that a unitary PPD disorder exists. Widiger (2006) argues that the concept itself should not be considered as a singularity and that multiple pathways to these behaviours should be recognised. The first problem that arises when aiming to understand causation via the concept of PPD is the tautological argument of having behaviours incorporated into its conceptualisation. Tautological issues are present in the conceptual and measurement aspects of PPD.

2.2.1.1. Conceptual issue

Walter (2004) expressed his concerns over the use of PPD as a general theory of crime by arguing that the concept disregarded the dynamic nature of criminal behaviour. Using deviancy as a criterion and outcome of PPD does not help our understanding of the link. It is essential to differentiate between the criteria and outcomes of a personality disorder, as these two aspects are currently entangled, and it consequently becomes harder to separate the influencing features from those that are influenced. A personality disorder should be based on maladaptive personality features solely, regardless of behavioural outcomes, as argued in the previous chapter. This is stressed by Blackburn's differentiation of universes. As Ellard (1988) argues, "Why has this man done these terrible things? Because he is a psychopath. And how do you know that he is a psychopath? Because he has done these terrible things" (p. 387). In the case of PPD, classifying maladaptive personality features clustered around an affective deficiency that naturally occurs simultaneously within certain individuals and researching how these maladaptive features influence deviancy may lead to a more promising understanding of the influences of affectivity towards deviant involvement. These criteria of PPD should be internal characteristics solely and should be immune to shifts in the situation in which individuals find themselves. In other words, the roots of PPD are neutral and have the potential to be expressed in deviant or adaptive manners. Each core feature of the disorder plays its own role, and just as one might be expressed negatively, in the same individual another core feature may have adaptive qualities.

2.2.1.2. Measurement issue

There exists not only a concern about applying behaviours as defining attributes in assessing PPD; there is also a concern when clinicians assess personality features based on past behaviours. Blackburn's arguments focus on defining attributes, but separating criteria from the outcome also raises a concern in rating personal deviance. Take the example of remorse that was touched on in the previous chapter. When assessing an individual for PPD by the PCL-R through a professional, structured interview that bases PPD scores on interview questions and past historical records, a clinician needs to make a judgement on 20 items. Of these items, some are part of the universe of personal deviance while others are not. Of the items that are part of personal deviance, a clinician makes a judgment as to whether an individual has a lack of remorse or lack of empathy based on their chronic offending, which is part of the universe of social deviance. Since the assumption is that an individual with empathy or remorse would not be chronically offending, conclusions must be made that these individuals have shallow affect. In doing so, lack of empathy and lack of remorse now become proxies for past offending. Although this predicts criminal behaviour, it does not explain criminal behaviour, as lack of affective is now measured by previous behaviour.

2.2.2. The fundamental attribution error in PPD

The second criticism that limits the PPD explanation of crime is its overemphasis on the individual and disregard of the social context. People do not act in a social vacuum (Wikström et al. 2012), and behaviours are more accurately seen as a product of the situation (person and environment interaction; Wikström 2006) than a product of an individual's personality. Although personality may make someone more likely to behave in certain ways, it does not explain why they indeed behave in those ways. A situational product should not be included in a personality concept.

Wikström stresses that the causes of crimes are situational. A situation occurs as the perception and choice of behaviours that emerge from the individual while interacting with his/her setting. In other words, the situation is the most crucial part of crime causation, and while personal and environmental factors are separately important in

crime, the interaction between the two is the most important aspect in explaining an act/behaviour. Not all individuals are crime prone and not all environments are criminogenic; however, a "particular combination of kinds of people and kinds of settings will tend to create particular kinds of situations (perception-choice processes)" (Wikström et al. 2012). In regards to PPD, this involves a detachment from the overemphasis on internal characteristics influencing behaviour often seen in the PPD literature. Behaviours and motivations are seen as a product of the situation, and although some personal characteristics may make a person more sensitive to certain types of motivators or may prompt them to act in certain ways, viewing personal characteristics as the sole driver of behaviour falls under the fundamental attribution error. Individuals with PPD may indeed be more sensitive to certain types of environments. However, as it currently stands in the PPD literature, many of the items characteristic of PPD would actually be a consequence of the situation rather than a consequence of the person.

2.3. Chapter summary and research questions

1. How SAT helps conceptualise PPD

This emphasis of having a personality disorder predict behaviour without being integrated into proper theoretical framework of behaviour causation overinflates the role of personality and puts the onus entirely on the individual. Therefore, although a main objective of PPD is to predict (or explain) criminal behaviour, it is limited in its accuracy in doing so. There are a few advantages to integrating PPD into an SAT framework: (1) an appreciation that a statistical relationship to criminal behaviour is not a strong enough argument to define a personality disorder, nor is it a valid reason to assume that the PPD components have the same etiology; (2) a re-structuring of PPD components which views an individual's morality separately from PPD dimensions; and finally (3) an understanding of the processes that bring about criminal behaviour which realistically gages the role of the individual and PPD components by including the criminogeneity of the environment in a situational model.

Contemporary PPD research has been heavily influenced by the relationship of PPD to criminality and its strength in predicting general and violent recidivism for adults and young offenders. Consequently, PPD is conceptualised by many correlates of crime, and

the question remains whether these characteristics are relevant in understanding the true nature of PPD. The field's focus on predicting crime and risk factors has led to PPD resembling a risk assessment rather than a personality disorder. By separating PPD from a predetermined rule-breaking morality, a better understanding of how personal deviance dimensions of PPD (impulsive/irresponsible & grandiose/manipulative) relate to rule-breaking behaviour can be further understood. Furthermore, this study aims to understand the interaction between PPD dimensions and morality in leading towards or away from rule-breaking behaviour. This does not argue against the links between PPD and rule-breaking behaviour, but it does stress that these links should not be assumed and integrated into a personality conceptualisation. To simultaneously understand PPD's association with rule-breaking behaviour and to remove this assumption from its conceptualisation, PPD should be integrated into a theoretical explanation of crime causation. SAT was applied in this chapter, and its stance on the role of morality and the relevance of self-control are of importance. This study's research questions are as follows:

Research question 1: *Is there a relationship between morality (moral rules and moral emotions) captured by Situational Action Theory and the Psychopathic Personality Disorder dimensions?*

There will be an association between both moral rules and moral emotions and the Psychopathic Personality Disorder (PPD) dimensions. This association will be relevant to both males and females. Those with high scores on the PPD dimensions will have a higher likelihood of having lower levels of shame and guilt as well as lower scores on what they view as morally wrong (moral rules). However, as morality (social deviance) and PPD dimensions (personal deviance) are part of two different universes of deviance, according to Blackburn's theory, some individuals will likely have a high score in one but not the other. PPD dimension scores will be associated with lower morality scores, which could be an explanation for why those (but not all) individuals with PPD are more likely to behave antisocially.

Research question 2: *Can morality moderate the association between Psychopathic Personality Disorder dimensions and in-school rule-breaking behaviour?*

The criticism with Psychopathic Personality Disorder (PPD) is the inclusion of morality within the conceptualisation. This is not to argue that rule-breaking prone morality scores are unrelated to PPD dimensions; however, their association should be researched and not predetermined. Since they are independent, morality will moderate the association between PPD dimensions and the frequency of in-school rule-breaking behaviour. This interaction will support the notion that the relationship between PPD dimensions and rule-breaking behaviour is not predetermined. When aiming to understand this link, it is crucial to understand the individual's unique morality. Morality is attached to the individual and not the personality disorder with which he or she is diagnosed.

Overarching research question: *Can morality complement Psychopathic Personality Disorder to help further our understanding of its association with rule-breaking behaviour?*

Currently, Psychopathic Personality Disorder (PPD) is stuck at an awkward fork in the road. It has evolved into a concept that has two aims, (1) define a personality disorder and, (2) predict antisociality. This has consequently warped the conceptualisation into including elements (social deviance) that are not qualified to characterise a personality disorder. By applying a criminological theory based on morality, such as Situational Action Theory does, social deviance can be viewed independently from PPD. From this application, the link between PPD and rule-breaking behaviour can be moderated through an individual's morality. PPD and morality interact to move an individual towards or away from rule-breaking behaviour.

Chapter 3: Sampling, methodology, and data screening

This chapter provides a description of this study's procedures and measurements. In summary, 1,057 pupils from 37 secondary state schools and 2 pupil referral units completed a questionnaire measuring in-school rule-breaking behaviour and psychological features such as morality and Psychopathic Personality Disorder (PPD) dimensions. Understanding the concepts of PPD in non-referred adolescents enables the capturing of how these psychological features link to the full spectrum of rule-breaking behaviour to pro-social behaviour. This in turn provides knowledge on the underlying processes of Psychopathic Personality Disorder.

3.1. Participants

3.1.1. School breakdown

The aim was to examine a wide variety of schools to solidify the chances of capturing the entire personality spectrum. In order to study participants ranging from those extremely low to those extremely high on the spectrum of Psychopathic Personality Disorder (PPD), Situational Action Theory (SAT) personality factors and everything in between, schools with different characteristics, such as Free School Meals (FSM), English as an Additional Language (EAL) and geographical location, were recruited. In other words, if we increase the variance in the differences in recruited schools, expectations of a greater variation in pupil personality should increase. However, it is also worth noting that school characteristics do not necessarily dictate personality characteristics, although we would expect to see differences among schools based on demographics and self-reported behaviour. As the goal of this research is to understand relationships between variables and not necessarily generalisability of rates of rule-breaking behaviour in a regional sample, the aim was to acquire, as much as possible, the entire spectrum of personality and not the variation most commonly found in the regional sample.

Measures of EAL and FSM were combined in order to divide schools into three categories: High disorganisation (high levels of FSM and EAL), Average disorganisation (average levels of FSM and EAL), and Low disorganisation (low levels of FSM and EAL). Table 3-1 describes the demographics of the 37 schools (both PRUs excluded). Schools surveyed were located in Cambridgeshire, Hertfordshire, and 10 London local authorities (Barking and Dagenham, Enfield, Hackney, Haringey, Havering, Islington, Newham, Redbridge, Tower Hamlets, Waltham Forest). In addition to these 37 schools, pupils from 2 Pupil Referral Units (PRU) of the regional sample were added to expand the variation in the sample on the basis of rule-breaking behaviour.

Table 3-1: School sample vs. regional sample demographics (excluding the 2 Pupil Referral Units)

	Schools in this study (N = 37)	Eligible schools in the region (N = 188)
High disorganisation	10 (26.3%)	42 (22.3%)
Average disorganisation	18 (49%)	109 (58%)
Low disorganisation	9 (23.7%)	37 (19.7%)
EAL	29.5%	30.4%
FSM	33.6%	36.1%
Ofsted	2.01 (mean)	2.02 (mean)
Ofsted behaviour	1.75 (mean)	1.85 (mean)

Note. EAL= English as an Additional Language. FSM= Free School Meal

3.1.2. Pupil sample

As PPD is a disorder that only affects a small portion of the population, why is this study focusing on adolescents in the general population and not on referred adolescents only? The reason for this is twofold: 1) Because PPD is based on personality, capturing the full spectrum of these characteristics helps us further understand their relationship to rule-breaking behaviour; 2) As the difference between referred and non-referred adolescents in regards to PPD seems to be the severity of the expressed characteristics rather than in-kind expressed characteristics, research that focuses on pupils helps us understand the underlying processes of PPD (Andershed et al. 2002b). Understanding the concepts of PPD in non-referred adolescents enables the capturing of how these psychological features link to the full spectrum of rule-breaking behaviour to pro-social behaviour.

3.1.3. Pupil breakdown

From each school, 30 pupils were selected at random to participate in this study. A breakdown of basic pupil demographics is provided in Table 3-2. For this, 30 numbers

were randomly selected by the researchers and given to the participating schools. Pupils associated with the random numbers provided to the school by the researchers on the alphabetised school attendance list were asked to participate in the research. Overall, 1,086 pupils participated in the study, and of these, 1,057 (97.4%) completed the questionnaire. With respect to the questionnaire, a total of 98 pupils who were randomly selected ended up being absent. Follow-ups were conducted in order to administer the questionnaire to these pupils. Of the 98 absent pupils, 30 completed the survey (30.6%). Among those who started the questionnaire, a total of 25 pupils did not finish it, with 22 of these pupils (88%) unable to complete the survey due to IT problems at one school. The average completion rate per school (excluding PRU) was 28.24 out of 30 responses.

Table 3-2: Participating Year-9 pupil demographics

Characteristics	Characteristic groups	Number	%
Sex	Male	534	50.5
	Female	523	49.5
Age	13 years old	510	48.1
	14 years old	550	51.8
	15 years old	1	0.1
Ethnicity	White	633	59.7
	Black	120	11.3
	Asian	185	17.4
	Mixed	80	7.5
	Arab	11	1.0
	Other	32	3.0

3.2. Measures

The data was collected in each school's computer room. The questionnaire was completed via an online browser hosted by surveymonkey.com. The low amount of missing data was attributed to the requirement of completing every item on the browser page in order to move on to the next section of the survey. All pupils were asked to read a consent form at the start and a debriefing form at the end of the questionnaire. A

description of the goal of the study and the reasons they were being asked to complete the questionnaire were explained to them aloud by the researchers before starting. Each item on the survey was also read aloud to enable pupils with learning difficulties or lower levels of English to complete the survey at a reasonable speed. While one researcher read the questions aloud, another researcher walked around the room and answered any questions the pupils had. This section will introduce each questionnaire measure in the current study.

3.2.1. Measurement error

It is useful to differentiate between the actual unobservable concept naturally occurring and the observable measurement score of that concept. When trying to capture an unobservable concept such as an individual's morality, it is not only safe but is *crucial* to assume that aspects of morality will be missed or warped when trying to translate it to a measurement. Theoretically, a measurement will never truly measure a concept perfectly; there will always be some margin of error when translating an unobserved concept to an observed "version" of that concept. Now, this error might be due to how the researcher who developed the measure views the underlying concept, or on how it was recorded. Maybe the participant was not paying enough attention while completing a self-report measurement, or maybe in the case of heart rate, the participant had three cups of coffee before the study. There are likely an infinite number of reasons why a measurement will not perfectly measure an unobserved variable, but it is necessary to keep this in mind when interpreting Structural Equation Modelling or any other type of statistical analysis or even simply trying to score an individual on a psychological assessment.

A good example of this is the PCL-R and the important differentiation between the naturally occurring concept of psychopathy and PCL-R, the instrument aiming to measure psychopathy. It is common in the literature to see researchers define the concept of psychopathy by referring to the PCL-R: "Psychopathy in this study is defined as in the PCL-R…". It is, after all, argued to be the gold standard in psychopathic personality understanding over many decades now, with the PCL and its derivatives "widely used for basic and applied investigations of psychopathy, its nature, and implications for society" (Hare, Neumann & Mokros 2018: 67). However, lumping a concept and the

measurement of a concept into a unit causes certain problems. The biggest in my opinion is the idea that concept understanding is one of the major aims of psychopathy research, and fixing its development to a measure which has a relatively fixed definition of psychopathy stalls our understanding. This is one reason why each variable in this study is differentiated between its definition and measurement, particularly with regard to the relevance of an individual's morality. In order to effectively capture an individual's relevant morality towards rule-breaking behaviour, one would have to include potentially hundreds of items in the questionnaire pertaining to specific situations. This is not realistic. It is simpler to view measures as a sort of condensed version of the concept being measured. Therefore, errors go hand in hand with measures, and this is something to keep in mind when interpreting the magnitude or significance of results.

3.2.2. Youth Psychopathy Traits Inventory summary

One problem when dealing with adolescents and specifically individuals exhibiting psychopathic-like characteristics is their difficulty with self-insight; although they may lack emotional depth, they might answer an item positively that asks about being caring towards others. Furthermore, PPD as it is currently defined is characterised by a magnitude of dishonest personality and behavioural patterns that might lead to some inaccuracy in responses. Taking these limitations into consideration, Andershed and colleagues (2002a) developed the Youth Psychopathy Traits Inventory (YPI), which phrased questions in a positive manner, making individuals with psychopathic characteristics more likely to see their qualities as desirable. For example, as Andershed argues (ibid.), introducing questions such as "My emotions are weaker than other people's" might not be seen as desirable as "I don't let my feelings affect me as much as other people's feelings seem to affect them". Overall, YPI scores showed good internal consistency in two American adolescent incarcerated samples, $\alpha = .92$ (Poythress et al. 2006; Skeem & Cauffman 2003). The YPI has also been validated in male and female adolescents (Colins et al. 2014; Colins et al. 2012).

3.2.2.1. Thrill-seeking subscale of the YPI

Andershed and colleagues (2002a) define thrill-seeking behaviour as the "need for stimulation and excitement, and proneness to boredom". Theoretically, their study views thrill-seeking behaviour as an aspect of deviant behaviour, increasing exposure to deviant prone situations. Thrill-seeking behaviour is better viewed as a situational construct because it is a result of an individual's personality features (e.g. what he/she finds exciting to do; morality that leads him/her to view what is acceptable to do) and the setting promoting thrill-seeking behaviour (lack of deterrence, increase in criminogenic features). Thrill-seeking is a 5-item subscale in which pupils are asked to rate themselves on whether "You like to be where exciting things happen" or "You get bored quickly when there is too little change". The response range is "Does not apply at all", "Does not apply well", "Applies fairly well", "Applies very well". Previous research showed acceptable internal consistency, α = .74 (Andershed et al. 2002a) in a Swedish incarcerated adolescent sample and in two American incarcerated adolescent samples (α = .68, Poythress et al. 2006; α = .71; Skeem & Cauffman 2003), which is consistent with the results found in this study. Table 3-3 indicates good variation in the scale and acceptable internal consistency.

Table 3-3: Demographic breakdown of the YPI Thrill-seeking subscale

Thrill-seeking subscale

	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	8.85	8.96	8.73
Median	9	9	9
Range	0-15	0-15	1-15
Standard deviation	2.69	2.71	2.66
Cronbach's alpha	.66	.65	.67
Skewness	-.08	-.20	.04
Kurtosis	2.91	3.11	2.75

3.2.2.2. Irresponsibility subscale of the YPI

Irresponsibility behaviour is defined by the DSM-5 (American Psychiatric Association 2013) as a failure to honour obligations or commitment; lack of follow-through on agreement and promises. Irresponsibility is a deviant behaviour exhibited in PPD that can be argued as an interaction between someone's personality features (e.g. morality that leads him/her to view what is pressing or acceptable to do) and the setting. Even the most irresponsible individuals are not consistently irresponsible in all aspects of their lives, and it is for this reason that an interaction between the individual and setting is arguably at play. Irresponsibility is a 5-item subscale of the YPI by which pupils rate themselves on items such as "You often don't have your school assignment done on time" and "It has happened several times that you've borrowed something and then lost it". The response range is "Does not apply at all", "Does not apply well", "Applies fairly well", "Applies very well". Table 3-4 indicates good variation in the scale and acceptable internal consistency. Previous research showed acceptable internal consistency, $\alpha = .73$ (Andershed et al. 2002a) in a Swedish incarcerated adolescent sample and in two American incarcerated adolescent samples ($\alpha = .65$, Poythress et al. 2006; $\alpha = .70$, Skeem & Cauffman 2003).

Table 3-4: Demographic breakdown of the YPI Irresponsibility subscale

Irresponsibility subscale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	4.58	5.01	4.14
Median	4	5	4
Range	0-15	0-15	0-14
Standard deviation	3.25	3.28	3.16
Cronbach's alpha	.73	.74	.72
Skewness	.58	.48	.70
Kurtosis	2.72	2.63	2.89

3.2.2.3. Impulsivity subscale of the YPI

Impulsivity is not defined for the YPI, although it is one of the most emphasised elements of PPD in the literature. Although it is difficult to say exactly what Andershed and colleagues (2002a) viewed as impulsivity, this study will define it according to its conceptualisation by Berlin and Hollander (2013: 62): "an inability to resist impulses and urges, deficits in delaying gratification, unreflective decision making and premature behaviour". They add that it can be seen as an override towards immediate rewards over long-term goals. I believe this is an accurate definition in regards to the impulsivity items in the YPI. This is the last subscale of the PPD-II dimension section of the YPI, along with thrill-seeking and irresponsibility. Impulsivity is a 5-item subscale of the YPI. Items vary from "It often happens that I do things without thinking ahead" to "If I get the chance to do something fun, I do it no matter what I had been doing before". The first pertains to resist impulses, while the second involves reward seeking. The response range is "Does not apply at all", "Does not apply well", "Applies fairly well", "Applies very well". Previous research showed acceptable internal consistency, $\alpha = .71$ (Andershed et al. 2002a) in a Swedish incarcerated adolescent sample and in two American incarcerated adolescent samples ($\alpha = .65$, Poythress et al. 2006; $\alpha = .66$; Skeem & Cauffman 2003), which is consistent with the results found in this study. Table 3-5 indicates good variation in the scale and acceptable internal consistency.

Table 3-5: Demographic breakdown of the YPI Impulsivity subscale

Impulsivity subscale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	7.06	7.07	7.04
Median	7	7	7
Range	0-15	0-15	0-15
Standard deviation	3.00	3.10	2.89
Cronbach's alpha	.72	.74	.69
Skewness	.07	.08	.06
Kurtosis	2.82	2.84	2.77

3.2.2.4. PPD-Impulsivity/Irresponsibility (II) dimension of the YPI

A combination of thrill-seeking, irresponsibility and impulsivity, the PPD-II dimension is arguably one of the strongest aspects of PPD linked to rule-breaking behaviour before age 15 and predictive of later rule-breaking behaviour in adulthood (Burt & Donnellan 2008; Krueger 1999). Yet, this factor remains ambiguous as to what is deemed defiantly impulsive or thrill-seeking. In other words, impulsive to what? Irresponsible to what? This begs the question, is PPD essentially impulsive to everything? Irresponsible to everything? Probably not. The PPD-II dimension in itself does not help us understand the common deficits expressed in PPD. It is simply a variable that to date holds a great deal of predictive power. These are questions we will try to answer in this study. Table 3-6 breaks down this dimension of the YPI.

Table 3-6: Demographic breakdown of the YPI-Impulsivity/Irresponsibility dimension

PPD-II dimension (impulsivity, thrill-seeking, irresponsibility)			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	18.48	19.04	17.91
Median	18	19	17
Range	0-30	0-30	2-28
Standard deviation	5.08	5.06	5.03
Cronbach's alpha	.84	.84	.84
Skewness	.36	.27	.46
Kurtosis	2.91	3.01	2.88

3.2.2.5. Manipulation subscale of the YPI

Manipulation in PPD is primarily characterised as the intention of deceiving the other in order to reach a goal (Bursten 1972). While PPD is often associated with psychological manipulation, this does not exclude it from being a situational construct as well. Manipulation as a behaviour has many accompanying layers, such as an individual's views on how to manipulate, his or her belief of what is acceptable vs. unacceptable manipulation, or the skills needed to pull off a certain type of psychological manipulation. Manipulation also requires an environment conducive to this type of

behaviour. For example, is there an opportunity to manipulate and is the other person resistant to being manipulated? Manipulation is measured with a 5-item subscale, which asks subjects about their behaviours on the subject, for example, "I am good at getting people to believe me when I make something up", or "It has happened that I've taken advantage of someone in order to get what I want". The response range is "Does not apply at all", "Does not apply well", "Applies fairly well", "Applies very well". Previous research showed acceptable internal consistency, α = .80 (Andershed et al. 2002a) in a Swedish incarcerated adolescent sample and in two American incarcerated adolescent samples (α = .82, Poythress et al. 2006; α = .85; Skeem & Cauffman 2003), which is consistent with the results found in this study. Table 3-7 indicates good variation in the scale and acceptable internal consistency.

Table 3-7: Demographic breakdown of the YPI Manipulation subscale

Manipulation subscale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	6.73	6.88	6.58
Median	7	7	6
Range	0-15	0-15	0-15
Standard deviation	3.46	3.43	3.49
Cronbach's alpha	.85	.85	.84
Skewness	.18	.16	.20
Kurtosis	2.62	2.70	2.55

3.2.2.6. Lying subscale of the YPI

As with manipulation, lying exhibited in PPD is similarly defined by Andershed and colleagues (2002a) as the tendency to lie frequently with ease. As lying is a behaviour, it too is better suited as a situational concept rather than a personality trait, as individual and environmental cues influence the behaviour. As in manipulative behaviour, lying is expressed by more than just personality traits. It requires certain skills by the individual lying, and it requires an environment conducive to lying. Lying is measured with a 5-item subscale that asks pupils questions such as "It's fun to make up stories and try to get

people to believe them" or "Sometimes I find myself lying without any particular reason". The response range is "Does not apply at all", "Does not apply well", "Applies fairly well", "Applies very well". Previous research showed acceptable internal consistency, α = .81 (Andershed et al. 2002a) in a Swedish incarcerated adolescent sample and in two American incarcerated adolescent samples (α = .75, Poythress et al. 2006; α = .84; Skeem & Cauffman 2003), which is consistent with the results found in this study. Table 3-8 indicates good variation in the scale and acceptable internal consistency.

Table 3-8: Demographic breakdown of the YPI Lying subscale

Lying behaviour subscale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	5.92	6.15	5.68
Median	6	6	6
Range	0-15	0-15	0-15
Standard deviation	3.29	3.24	3.33
Cronbach's alpha	.76	.75	.77
Skewness	.18	.04	.32
Kurtosis	2.53	2.58	2.56

3.2.2.7. Grandiosity subscale of the YPI

In this study, the definition of grandiosity is taken from the DSM-5 "Exaggerated achievements and talents, expected to be recognized as superior without commensurate achievements" (American Psychiatric Association 2013: 669). Furthermore, this study views grandiosity as a state of mind in individuals that guides how they interact with others. It is hypothesised that grandiosity may lead to certain types of deviant behaviour exhibited in PPD, such as manipulation or lying. When viewing others as lesser beings, one might not consider lying or manipulation as a problem. Grandiosity is composed of 5 items that ask pupils their opinion about their own standing in life, for example "You're better than everyone at almost everything" or "You're more important and valuable than other people". The response range is "Does not apply at all", "Does not apply well",

"Applies fairly well", "Applies very well". Previous research showed acceptable internal consistency, α = .73 (Andershed et al. 2002a) in a Swedish incarcerated adolescent sample and in two American incarcerated adolescent samples (α = .69, Poythress et al. 2006; α = .61; Skeem & Cauffman 2003), which is consistent with the results found in this study. Table 3-9 indicates good variation in the scale and acceptable internal consistency.

Table 3-9: Demographic breakdown of the YPI Grandiosity subscale

Grandiosity subscale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	4.49	5.09	3.87
Median	4	5	3
Range	0-15	0-15	0-15
Standard deviation	3.45	3.38	3.40
Cronbach's alpha	.80	.79	.82
Skewness	.66	.56	.84
Kurtosis	3.06	3.06	3.28

3.2.2.8. PPD-Grandiose/Manipulation (GM) dimension of the YPI

Formed of deviant interpersonal interaction and beliefs with/of others, the PPD-GM dimension is a key aspect of PPD in the literature. Linked with a lack of empathy, the PPD-GM dimension can be seen early on in childhood (Vahl et al. 2014). Table 3-10 breaks down this dimension of the YPI. This factor contains an aggregate score of manipulation, lying and grandiosity. In other studies, the aspect of dishonest charm is also related and integrated into this factor. Dishonest charm is not integrated in this study because it can arguably be captured by the three current subscales of manipulation, lying and grandiosity. Andershed and colleagues (2002a: 135) define dishonest charm only as "different aspects of glibness and superficial charm", which is vague. When looking at the items "I have the ability to con people by using my charm and smile" or "It's easy for me to charm and seduce others to get what I want from them", it is inevitably rooted in layers of social context, which would imply superficial contact with the "victim". However, our sample population has a fixed routine of going to school most days, making

it extremely difficult to have superficial contact with other individuals. Therefore, including dishonest charm would potentially warp the results of this factor.

Table 3-10: Demographic breakdown of the YPI-Grandiose/Manipulation dimension

PPD-GM dimension (lying, manipulation, grandiosity)			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	17.14	18.13	16.13
Median	17	18	15
Range	0-45	0-45	0-39
Standard deviation	8.00	7.84	8.05
Cronbach's alpha	.79	.78	.80
Skewness	.28	.17	41
Kurtosis	2.98	3.26	2.86

3.2.3. Situational Action Theory measurement summary

The next set of measurements is part of what SAT would consider as measures contributing to the causal link to rule-breaking behaviour. Interpersonal moral emotions and moral rules all play a part in mechanisms leading towards rule-breaking behaviour.

3.2.3.1. Lack of shame

Shame in the current study is defined as a negative feeling experienced in the presence or consideration of others (Wikström et al. 2012). Shame is seen as a social sanction. This study is rooted in SAT and because of this, it is hypothesised that low levels of shame weaken an individual's overall morality, which in turn leads them to perceive social deviance as viable behavioural options. The scale is formed of a 6-item Likert scale asking hypothetical scenarios such as "If you were caught shoplifting and your parents found out about it, would you feel ashamed?" or "If you were caught breaking into a car and your best friends found out about it, would you feel ashamed?", with response options of "No, not at all", "Yes, a little", and "Yes, very much". The Shame scale was developed by Wikström in 2004. Previous internal consistency was

shown to be high, α = .94 (Trivedi-Bateman 2014). Table 3-11 indicates good variation in the scale and good internal consistency, showing a close relationship between items in the scale. Scores are reverse coded, so high scores in this measure indicate an increased lack of shame.

Table 3-11: Demographic breakdown of the Lack of shame scale

Lack of shame scale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	2.61	2.96	2.26
Median	2	2	2
Range	0-12	0-12	0-12
Standard deviation	2.78	2.82	2.69
Cronbach's alpha	.86	.85	.86
Skewness	1.12	1.04	1.44
Kurtosis	4.06	3.64	4.77

3.2.3.2. Lack of guilt

Guilt in this study is defined as an internal sanction that is exhibited by an intrinsic negative feeling of self often experienced as a result of an action (Wikström et al. 2012). Comparable to weak shame, weak levels of guilt are hypothesised by SAT to lower an individual's morality, leading them to perceive rule-breaking behaviour or social deviance as acceptable options. This 6-item scale asked questions such as "Would you feel guilty if you broke into a car and stole something?" or "Would you feel guilty if you hit another classmate who made a rude remark to you?" The response range is "No, not at all", "Yes, a little", and "Yes, very much". As with the lack of shame scale, the lack of guilt scale was developed by Wikström in 2004. Previous internal consistency was shown to be high, α = .94 (Trivedi-Bateman 2014). Table 3-12 indicates good variation in the scale and good internal consistency, showing a close relationship between items in the scale. Scores are reverse coded, so high scores in this measure indicate an increased lack of guilt.

Table 3-12: Demographic breakdown of the Lack of guilt scale

Lack of guilt scale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	4.05	4.78	3.62
Median	4	4	3
Range	0-12	0-12	0-11
Standard deviation	2.62	2.65	2.52
Cronbach's alpha	.76	.76	.76
Skewness	.53	.41	.67
Kurtosis	2.74	2.68	2.92

3.2.3.3. Moral rules

Moral rules are defined as how an individual views particular actions to be right or wrong in a particular circumstance. Weak moral rules, similar to a lack of shame and lack of guilt, contribute to the likelihood of that individual to see rule-breaking behaviour as a morally acceptable behavioural option. The weak morality scale is composed of 16 items, with pupils reporting how wrong or how acceptable they view certain acts. These acts range in severity, and examples include "Skip doing homework for school", "Hit another young person who makes a rude comment", and "Use a weapon or force to get money or things from another young person". The answer range is "Not wrong at all", "A little wrong", "Wrong", and "Very wrong". The scale was developed by Wikström for the PADS+ longitudinal study. However, it was based off of the Pittsburgh Youth Study prosocial values scale (Loeber, Farrington Stouthamer-Loeber, Moffitt & Caspi 1998). Previous internal consistency was shown to be high for a similar age range in the current study (14-year-old pupils), $\alpha = .90$ (Wikström et al. 2012). Table 3-13 indicates good variation in the scale and good internal consistency, showing a close relationship between items in the scale.

Table 3-13: Demographic breakdown of the Moral rules scale

Moral rules scale			
	Overall (N= 1,057)	Males (n= 534)	Females (n= 523)
Mean	11.18	11.75	10.59
Median	10	11	10
Range	0-41	0-41	0-35
Standard deviation	6.63	7.00	6.18
Cronbach's alpha	.86	.87	.85
Skewness	.94	.91	.93
Kurtosis	4.11	3.99	4.03

3.2.4. In-school rule-breaking

The frequency of a variety of rule-breaking behaviours was recorded for each participant. One month was deemed a good timeframe, as it would 1) be sufficient to view a variation in self-report and 2) increase the recall accuracy of self-reporting. Table 3-14 breaks down the frequency and percentage of pupils who have self-reported rule-breaking behaviour while at school. A combined score was summed by combining aggressive/threatening items. Although items on this index vary in severity and context, a general score helps us understand the generalisability of the association between SAT and PPD. Furthermore, both SAT as a theory and PPD as a concept argue a strong relationship between all types of problem/criminal behaviour (Hare 2003; Andershed 2002a; Salekin Andershed & Clark 2018; Wikström et al. 2012). Participants were free to enter any number while indicating the frequency of rule-breaking behaviour, and items were capped afterwards if the frequency was deemed too unrealistic.

Table 3-14: Breakdown of the different in-school rule-breaking behaviours

Self-reported rule-breaking behaviour prevalence in schools			
At least once (1-month)	Overall (%) N=1,058	Males (%) n=534	Females (%) n=524
Disturbed a lesson	599 (56.6)	333 (62.4)	266 (50.8)
Used mobile phone during lesson	508 (48.1)	240 (44.9)	269 (51.2)
Refuse to follow teacher's instructions	480 (45.4)	275 (551.5)	204 (39.1)
Worn inappropriate uniform	236 (22.3)	113 (21.2)	123 (23.5)
Leaving a lesson without an excuse	169 (16.0)	85 (15.9)	84 (16.0)
Verbally aggressive to a pupil	299 (28.3)	177 (33.2)	122 (23.3)
Rude to a teacher	345 (32.6)	186 (32.6)	159 (30.3)
Verbally aggressive to a teacher	89 (8.41)	50 (9.4)	39 (7.4)
Any rule-breaking behaviour	802 (75.78)	419 (78.5)	384 (73.2)

3.3. Developing the study procedure

Essentially, this study had two main themes, as I joined forces with another PhD student (Liam McSharry) who also fortunately was interested in the same participant population and outcome variable. Although our research interests differed, we combined our efforts and merged our measures. This was beneficial, as we had the twice the man-hours to contact schools, which was one of the main hurdles and limitations of this study.

I will of course focus on my part of the research, but it is essential for the transparency of the study to explain the entire process. Although we both aimed to understand rule-breaking behaviour in adolescents, we approached the challenge differently. As explained in the previous chapter, I focus more on personality and emotional features influencing rule-breaking behaviour, while my colleague studies the same problem through a social psychological lens. His PhD examines social control and effective school policy that can reduce rule-breaking behaviour in schools. As we also have the same supervisor (Professor Per-Olof Wikström), both of our research efforts reflect aspects of Situational Action Theory. However, it must be added that the two PhD

studies were based on different aspects of SAT. I focused more on moral rules and emotional influence leading to a higher crime propensity, while Liam leaned towards researching the moral context and collective efficacy influencing crime propensity.

The initial challenge was to develop a study that would benefit both of us in order to, at a minimum, write two PhD theses. Thankfully we had the same outcome variable to look at (rule-breaking behaviours), as this made it easier. We spent quite a lot of time on this step, understandably. At this stage of the process we had several meetings with both Per-Olof Wikström and Kyle Treiber, who advised us on realistic options to aim at. As I am not native to this country, understanding its school system in-depth was a steep learning curve for me; however, thankfully my colleague has taught in the English education system and was aware of potential obstacles.

With some compromises, Liam and I decided that a self-report questionnaire was the most realistic option if we wanted to combine forces. This would allow us to gather the needed number of participants from each school in the least amount of time while still retaining data quality (I will explain this in greater detail later on in this chapter).

The time spent in each school was a big factor, as we both needed a high number of participants for our studies. As Liam was interested in pupil/teacher level variables and school level variables, we needed to ensure enough schools would participate in the study for him to be able to use the variations in schools to potentially conduct multi-level analyses. I on the other hand was not analysing multi-levels of variables, although I welcomed the potential increased number of participants. Gathering information on a high number of participants reinforces the strength of my data and the assumption that I am capturing the entire spectrum of important personality features related to this study. As most pupils would score in the average range of our measurements, raising the participant numbers increases the rate of capturing pupils at the extremities of the scoring range. In other words, the more participants, the higher the odds of having individuals significantly high and significantly low on my measures; capturing the variability was essential for my research.

3.3.1. School recruitment

Recruitment of schools was a challenge, and many steps were involved in this process. Firstly, we needed to decide whether we wanted to have a school sample representative of England's population of schools or have a full spectrum of schools we deemed excellent to poor and everything in-between. In the end, the decision was made to have a full spectrum of schools rather than a representative sample, since we both had research questions aimed at challenging a theoretical concept which needed a full variety of schools and participants.

In order to rate schools on this spectrum, we designed a score of school disorganisation based off Free School Meals (FSM) and English as an Additional Language (EAL). Statistics for both of these for each school can be found in the Department for Education. By Z-scoring these two items and adding them up, each school received an individualised school disorganisation score. Schools were to be placed in 3 groups: low disorganisation, indicating a lower ratio of pupils with FSM and EAL; moderate disorganisation; and high disorganisation, indicating a higher ratio of pupils with FSM and EAL. To establish group parameters, we used one standard deviation separation. All potential schools falling under one standard deviation from the mean would be placed in the low disorganisation, while those falling over one standard deviation would be categorised as high disorganisation. Our goal was to use a stratified sample in which we would recruit similar numbers from all 3 groups.

In order for schools to be considered as potential participants, they had to first meet certain criteria. Schools had to have similar numbers of girls and boys and a student population over 200. Only state schools with no religious ethos were considered. Firstly, we were both seeking to examine gender differences. Secondly, underpopulated schools would have skewed collective efficacy scores due to their small size. And thirdly, we hypothesised a large spectrum of students attending state schools and non-religious schools. Adding private and religious schools would skew our groups, and we would potentially see many state schools falling into the high disorganisation group, which would in turn lose us specificity in the recruitment process.

In each school we decided to survey 30 randomly-selected Year-9 pupils. This number was decided upon based on time efficiency and limited access in each school. As 30 pupils is the size of an average class, many schools have a computer room with the

capacity to accommodate 30 pupils; any number higher than 30 would create uncertainty about computer allocation. We were aware that schools with only limited time to offer might be hesitant to participate if the time spent at the school exceeded one hour. Having 30 participants at each school allowed us to conduct a single round of data collection from the time we arrived at the school to the time we left.

We chose 14-year-old pupils as our potential population for two reasons: 1) it is the age at which people tend to start offending and at which rule-breaking behaviour begins to be noticed and 2) using Year-9 pupils would allow more flexibility in time allocation with the schools. Because in the English school system, GCSEs and A-level students are prioritised from Year-10 onward, schools may have been reluctant to allocate us time to survey these pupils.

3.3.2. In-school fieldwork

The actual fieldwork in schools varied slightly from school to school, but for the most part the process remained the same. Variations came in the form of the size of computer classrooms and number of participants at one time. Nothing was deemed detrimental to the collection of participant information.

As we conducted the same procedure in dozens of schools, this description is a summary of all of them. Our arrival at the schools varied according to the time agreed upon. On average, we required just a single one-hour timeframe in each school; in some schools, participants arrived late to our fieldwork sessions due to various reasons, and we therefore stayed longer when needed. We would initially arrive at reception, where we met our contact from the school. We were then escorted to the computer lab, where we made sure all computers were functional, and we set out the necessary information in front of each available computer. We had prepared a small sheet with the URL the participants needed to enter to complete the survey, along with additional information for certain questions we deemed might be slightly challenging for the participants. We also added two tables to the sheet to help participants accurately keep track of the number of times they had done certain actions.

In most schools, a number of participants slowly trickled in, and we instructed them to log in to their school computer accounts. After doing so, we further instructed them to

enter the URL on the sheet provided to them. We were aware that some students might have concentration problems, learning difficulties, and English as a second language, so we walked them through the questionnaire. My colleague started off the process by introducing us both. He then provided a brief explanation of what the students would be completing. He emphasised that the questionnaire is completely anonymous and instructed participants to answer the questions as accurately as possible. After the brief introduction, I began reading out each question so students would be able to work at a reasonable pace and finish the questionnaire on time. Participants with questions were instructed to raise their hand, as my colleague was walking around the room and was available to answer questions.

The online questionnaire was separated into three parts: 1) questions about the respondent's morality, emotions and personality; 2) questions about their school, friends, and family; and 3) questions about their behaviour inside and outside of school. While section 3 was the shortest section, it was also the most difficult one, as they had to recall the number of times they had previously exhibited certain behaviours. This was the only section that was not read aloud, as we deemed it crucial to both circulate around the room and ensure all participants were filling out the question properly. The whole questionnaire workshop took roughly 50 minutes to complete; however, some students worked more quickly and finished before the allotted time. Depending on the school, students were either allowed to leave and head back to their scheduled class or stay in the computer lab and do school work in silence until the end of the period.

3.3.3. Pilot

The pilot study was crucial to this research, as without it the fieldwork process would have seen a few recurring problems. We were able to pilot the study with roughly 120 Year-9 participants in two secondary schools. In both schools we had access to 60 pupils. In both cases, we divided participants into two groups, with 30 participants initially completing the online survey to enable us to ensure that everything went smoothly with the actual procedure and that everyone could access the survey on their computers. Afterwards, a new group of 30 participants would work in groups of 3 or 4 to look over the questionnaire. These groups were instructed to flag any uncertainty they had over the terms and questions used. In addition, we had an opportunity to interview one of the

headmasters and ask his professional opinion on the survey and further our understanding of how schools operate. We also asked him what we could do to increase a school's interest in joining our study. He essentially reinforced our preconceived notion that schools would be interested in participating due to the study providing them a personalised report afterwards on general student behaviours and views about the school.

3.4. Data Screening

3.4.1. Missing values

There were not many missing values, as most participants completed the questionnaire online, which would alert pupils if an item was missed. The online survey would not move on to the next page if an item had no response. Most missing values originated with individuals (n = 33; 3.1%) who completed the pen/paper version of the survey. For these individuals, we examined the answers to ensure that none were missing. Despite this, some missing items were not caught on the initial review on site. At one school, IT problems restricted us from completing the survey and therefore self-reported behaviours were not recorded for 22 (2%) participants. Since self-reported behaviour was missing for every participating pupil in this school, the data was removed. Pupils who were absent from school the day we were collecting responses also account for certain missing data. These pupils were asked to complete the online version of the survey on their own time; however, of the 98 absent pupils, only 30 (30.6%) completed the survey remotely. Of those who completed the survey, 4 were removed due to malicious responses. Furthermore, 11 entries were removed due to the participants not completing the majority of the questionnaire.

3.4.2. Normality of measures

Normality of measures was assessed by reviewing the skewness and kurtosis of variables as well as Q-Q plots. Kolmogorov-Smirnov and Shapiro-Wilk tests were not used due their sensitivity to sample size, leading to slight deviation from normality being significantly identified as non-normal distribution (Le Boedec 2016). Skewness for all variables except lack of shame and self-reported behaviours were reported as normal,

while kurtosis for many measures had fatter tails (+ 3 score) than a normal distribution. High kurtosis leads to an assumption that outliers may be present.

3.4.3. Dealing with univariate outliers

In regards to independent measures, outliers were left in due to the nature of the concepts being measured. Aspects of deviancy and personality factors not common in all pupils and an understanding of the full spectrum of these instruments was prioritised.

The presence of outliers was only a concern when reviewing self-reported offences. The way in which the survey was constructed was to obstruct as little as possible the raw responses of pupils when completing self-reported behaviour. For this reason, pupils were able to input frequency instead of selecting a multiple choice answer. A decision was made to use this method due to us being on site to answer any questions or help pupils who might have had difficulties "tracing back" their past behaviour. We wanted the fewest number of restrictions while having the highest amount of guidance. Tables were also distributed to each pupil to help them systematically recall the number of times a certain behaviour occurred daily, weekly, monthly, yearly (Appendix G).

3.4.4. Multivariate outliers

To further examine specific extreme cases, multivariate outliers were calculated by evaluating Mahalanobis distance between predicting variables. Due to the complexity of SEM (covered in Chapter 5) and some variables being simultaneously independent and dependent variables, two sets of Mahalanobis distances were created. The first was between weak moral rules, lack of shame, and lack of guilt. The second was between PPD-GM dimension and PPD-II dimension. Outlier cut-off scores were based on $p \leq .001$ (Tabachnick and Fidell 2001). This test revealed 2 cases of multivariate outliers between the first five variables listed and 1 case between interpersonal and PPD-II dimension.

Each of these cases was examined individually so as to view why they were signalled as multivariate outliers. The first is due to 2 pupils scoring as having rule-breaking moral rules while also having high rates of shame and guilt. Theoretically, it would be argued

that those who score high on moral rules would also have high rates of shame and guilt (Trivedi-Bateman 2014), which is what we see with the other pupils in the study. However, since removing these outliers because they do not fit the theory would constitute bias, they were not dropped for the analysis.

The single outlier flagged between interpersonal and PPD-II dimension was due to that pupil scoring high on PPD-II dimension while scoring low on PPD-GM dimension. Again, this single outlier was not dropped for the analysis, because, although normally covariation between variables is predicted, both sets of deviant behaviours are independent pathways. It is arguably normal to see certain individuals have this impulsive lifestyle while not attempting to lie to or manipulate others.

3.5. Chapter summary

1. School selection

Secondary schools from 12 local authorities (Barking and Dagenham, Enfield, Hackney, Haringey, Havering, Islington, Newham, Redbridge, Tower Hamlets, Waltham Forest, Hertfordshire, and Cambridgeshire) in the UK were asked to participate in this study. In total, 37 secondary state schools and 2 pupil referral units participated. The logic behind collecting information from a large number of schools was to increase the likelihood of gathering information from a wide variety of students from different locations (e.g. rural vs urban).

2. Pupil selection

From the participating schools, 30 Year-9 pupils were randomly selected from each school. Overall, 1,086 Year-9 pupils started the questionnaire and a total of 1,057 pupils completed the questionnaire. Of the pupils who completed the questionnaire, 50.5% were male and 49.5% were female. Having a large number of both males and females was necessary, as analyses were separated based on gender. To understand the link between Psychopathic Personality Disorder and rule-breaking behaviour, it is crucial to have as much variation as naturally possible in the outcome variable. For this reason, a large number of non-referred pupils were used rather than referred adolescents.

3. Measurements

Elements of both Situational Action Theory and Psychopathic Personality Disorder were captured as well as in-school rule-breaking behaviour for each pupil.

4. Procedure

Fieldwork was conducted with pupils in the schools' computer room. Depending on the school, 25 to 30 pupils completed the questionnaire. To account for learning difficulties and EAL situations, each question was read out loud at a slow but steady pace. The questionnaire completion was done within the hour of starting it. Fieldwork went smoothly on most occasions since a pilot study was conducted at two schools in order to fix any practical problems.

5. Data screening

Missing values were manageable as the online questionnaire would alert pupils when they missed a question. Normality for all variables except lack of shame and in-school rule-breaking was reported as normal. A decision was made to keep variables as they were and use statistical techniques designed for skewed data instead of transforming the variables.

Chapter 4: Association between morality and Psychopathic Personality Disorder dimensions

This chapter focuses on the association between moral rules, moral emotions, Psychopathic Personality Disorder (PPD), and rule-breaking behaviour. This is the first of two results-focused chapters. The main aim of this chapter is to test the hypothesis associated with the first research question, which argues an association between morality and PPD. In doing so, this chapter also paves the way to answer the second research question, which is the focus of the next chapter. Results show a significantly association between the two; however, some measures show weaker than expected associations. Preliminary results of the link between rule-breaking behaviour and morality are also described. Overall, both PPD and morality are associated with the outcome of rule-breaking behaviour.

4.1. Overview of the theoretical model and key chapter findings

At the end the second chapter, two research questions and one overarching research question were introduced: (1) Is there a relationship between morality (moral rules and moral emotions) captured by Situational Action Theory and the Psychopathic Personality Disorder dimensions? (2) Can morality moderate the association between Psychopathic Personality Disorder dimensions and in-school rule-breaking behaviour? (3) Can morality complement Psychopathic Personality Disorder to help further our understanding of its association with rule-breaking behaviour?

The aim of these questions was to further an understanding of the link between morality, as viewed by Situational Action Theory (SAT), and Psychopathic Personality Disorder (PPD). Over the past few decades, research on PPD has increased due to its ability to predict future violent offending. However, our understanding of a coherent definition of what PPD is and whether it can *explain* violent behaviour instead of simply *predicting* it is still vague. The current definition of PPD was developed in part through a risk factor approach, and because of this, it is difficult to understand the true relationship between this disorder and in-school rule-breaking behaviour, as elements irrelevant to a personality disorder are incorporated into the conceptualisation. This study solely focuses on in-school types of rule-breaking and not rule-breaking everywhere, as the focus was on school pupils. It is argued in this study that to make sense of this relationship, PPD should be integrated into an SAT theoretical framework. Starting a conversation that aims to incorporate PPD into SAT is what this study aims to accomplish – more specifically, understanding how morality can moderate the association between PPD and rule-breaking behaviour. Morality, argued by SAT, is the initial filter leading someone to perceive behaviours as a viable option. Within the concept of PPD, this perception of antisocial behaviour is already predetermined and incorporated. Theoretically, it is argued that this element of predetermined antisociality, which is a situational characteristic, has no valid reason to be in a personality disorder conceptualisation.

This chapter is divided into two parts: (1) describe the basic relationships between the measures used and their relationship with in-school rule-breaking behaviour (2) tackle the first research question presented in the study (Is there a relationship between moral emotions, moral rules, and the dimensions of PPD?). The basic correlation matrix

between the measures is presented, and regressions are then conducted based on the SAT framework to start to assess its validity in further explaining rule-breaking behaviour.

In this chapter, four key findings were found:

- Figures 4-1 and 4-2 displays that in-school rule-breaking behaviour varied between and within schools. This was more severe for females compared to males. Due to this, clustered standard errors (based on schools) were used in each analysis below and in the next chapter for both males and females. This allows to control for potential school level variation, which would be misconstrued as variation attributed to personal characteristics.
- Lack of guilt was the strongest predictor of rule-breaking behaviour, while lack of shame was not significantly related to rule-breaking behaviour for males. However, in Table 4-1 to Table 4-3, correlations between lack of shame and lack of guilt were strong. This leads to the argument that multicollinearity is the potential reason for this non-significant relationship between lack of shame and in-school rule-breaking. The elements of lack of guilt and lack of shame linked to rule-breaking may be the similar, and therefore a regression model which contains both variables may only attribute this predictive value through one variable, lack of guilt. This is not to say that lack of shame is an irrelevant moral emotion.
- Morality (moral rules, lack of shame, & lack of guilt) appears to better relate to the Impulsivity/irresponsibility dimension compared to the Grandiose/manipulation dimension of PPD in both males and females.
- Looking at the gender differences, males and females seem to show similar levels of variability across moral rules, lack of shame, and lack of guilt, as well as dimensions of PPD. Lower levels of in-school rule-breaking are present in females compared to males.

The analysis and description of these findings are broken down below.

4.2. Preliminary results on rule-breaking behaviour

In order to assess the full spectrum of personality, the study captured data from a large number of pupils from various schools across North London, Hertfordshire, and Cambridgeshire. As pupils were nested within schools and variation between pupil

results could represent differences between schools rather than differences between pupils, school variation was investigated. The differences between schools brought forth some interesting variances in self-reported behaviour. Figure 4-1 and Figure 4-2 show that discrepancies were found for both males and females. Although males, on average, reported higher frequency of rule-breaking behaviour, differences between schools showed more variation for females. This suggests that females might be more susceptible to school differences compared to males; however, this question is not in line with the scope of this study. To control for these school level variations, clustered standard errors will be used in each analysis below and in the next chapter (Chapter 5).

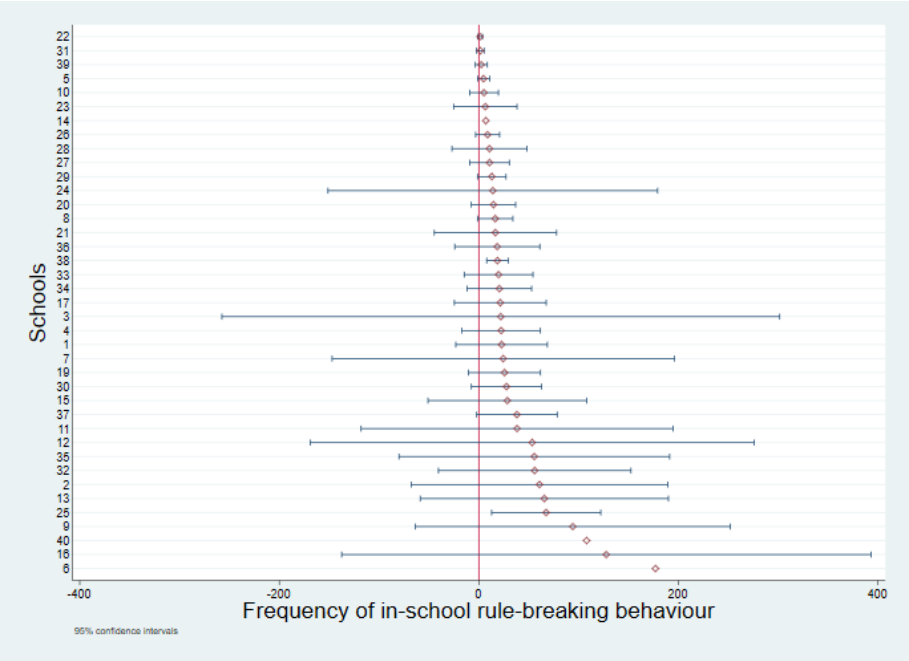

Figure 4-1: Males self-reported rule-breaking behaviour by school (n= 534)

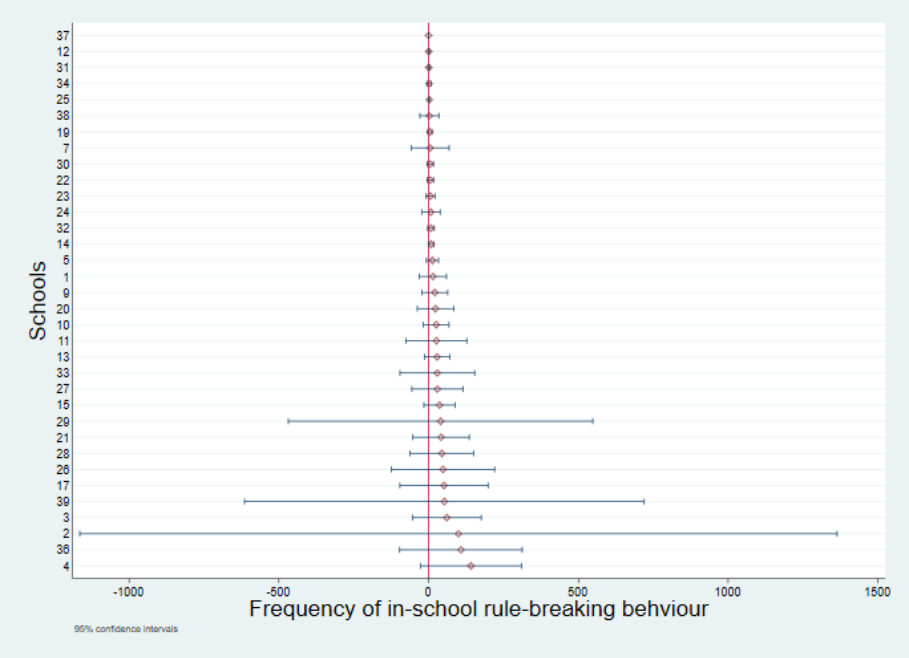

Figure 4-2: Females self-reported rule-breaking behaviour by school (n= 523)

4.2.1. Measurement correlation matrixes

Below are the three correlation matrixes for this study. Table 4-1 is the overall correlation matrix when all participants are grouped together. Table 4-2 and Table 4-3 are the correlation matrixes when participants are broken down into males and females respectively.

Table 4-1: Overall (N= 1,057): correlation matrix between moral emotions, morality, & PPD dimensions

Variables	1	2	3	4	5	6	7	8	9	10	11
Rule-breaking moral rules	1.00										
Lack of guilt	.58 ***	1.00									
Lack of shame	.53 ***	.66 ***	1.00								
PPD-II	.48 ***	.49 ***	.36 ***	1.00							
Impulsivity	.32 ***	.32 ***	.22 ***	.84 ***	1.00						
Irresponsibility	.48 ***	.47 ***	.38 ***	.84 ***	.56 ***	1.00					
Thrill-seeking	.37 ***	.41 ***	.29 ***	.77 ***	.49 ***	.46 ***	1.00				
PPD-GM	.31 ***	.37 ***	.23 ***	.51 ***	.43 ***	.38 ***	.43 ***	1.00			
Lying	.26 ***	.29 ***	.19 ***	.50 ***	.45 ***	.39 ***	.39 ***	.78 ***	1.00		
Manipulation	.30 ***	.35 ***	.22 ***	.43 ***	.34 ***	.33 ***	.39 ***	.84 ***	.55 ***	1.00	
Grandiosity	.17 ***	.24 ***	.14 ***	.27 ***	.23 ***	.19 ***	.24 ***	.73 ***	.30 ***	.41 ***	1.00

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

Table 4-1 indicates the basic interrelationships between the measures. Overall, moral rules, lack of shame, and lack of guilt had strong relationships to the PPD dimensions. Also overall, the PPD-II dimension and its subscales showed stronger relationships to SAT measures compared to the PPD-GM dimension and its subscales.

Table 4-2: For males (n= 534): correlation matrix between moral emotions, morality, & PPD dimensions

Variables	1	2	3	4	5	6	7	8	9	10	11
Rule-breaking moral rules	1.00										
Lack of guilt	.57 ***	1.00									
Lack of shame	.54 ***	.66 ***	1.00								
PPD-II	.45 ***	.46 ***	.32 ***	1.00							
Impulsivity	.30 ***	.30 ***	.20 ***	.85 ***	1.00						
Irresponsibility	.46 ***	.44 ***	.34 ***	.84 ***	.57 ***	1.00					
Thrill-seeking	.35 ***	.39 ***	.24 ***	.75 ***	.48 ***	.43 ***	1.00				
PPD-GM	.34 ***	.37 ***	.22 ***	.52 ***	.42 ***	.39 ***	.45 ***	1.00			
Lying	.26 ***	.32 ***	.21 ***	.54 ***	.47 ***	.41 ***	.42 ***	.78 ***	1.00		
Manipulation	.33 ***	.34 ***	.20 ***	.41 ***	.30 ***	.32 ***	.40 ***	.83 ***	.54 ***	1.00	
Grandiosity	.20 ***	.20 ***	.11 *	.25 ***	.22 ***	.16 ***	.25 ***	.73 ***	.30 ***	.40 ***	1.00

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension.
PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.
*= significant difference (p< .05)
**= significant difference (p< .01)
***= significant difference (p< .001)

Table 4-2 displays the correlations between the measures for males. Lack of guilt was most strongly related to the PPD-GM dimension.

Table 4-3: For females (n= 523): correlation matrix between moral emotions, morality, & PPD dimensions

Variables	1	2	3	4	5	6	7	8	9	10	11
Rule-breaking moral rules	1.00										
Lack of guilt	.60 ***	1.00									
Lack of shame	.52 ***	.64 ***	1.00								
PPD-II	.51 ***	.51 ***	.40 ***	1.00							
Impulsivity	.35 ***	.37 ***	.25 ***	.83 ***	1.00						
Irresponsibility	.49 ***	.48 ***	.40 ***	.85 ***	.55 ***	1.00					
Thrill-seeking	.40 ***	.42 ***	.33 ***	.79 ***	.50 ***	.49 ***	1.00				
PPD-GM	.26 ***	.35 ***	.23 ***	.49 ***	.45 ***	.36 ***	.41 ***	1.00			
Lying	.24 ***	.24 ***	.16 ***	.45 ***	.43 ***	.34 ***	.35 ***	.78 ***	1.00		
Manipulation	.27 ***	.36 ***	.23 ***	.43 ***	.37 ***	.33 ***	.38 ***	.85 ***	.56 ***	1.00	
Grandiosity	.11 *	.22 ***	.14 **	.26 ***	.25 ***	.18 ***	.23 ***	.73 ***	.30 ***	.43 ***	1.00

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

Table 4-3 displays the correlations between the measures for females. As expected, moral rules, lack of guilt, and lack of shame were all significantly related to both PPD dimensions. Lack of shame also showed higher relationships between the dimensions compared to males. In addition, lack of guilt showed the strongest correlation to manipulation and irresponsibility.

4.2.2. Self-reported in-school rule-breaking behaviour

In regards to self-reported violence, 67.2% of accounts were reported by males. However, it has been shown by previous studies (Falk et al. 2014) that a small number of individuals tend to be responsible for a large number of offences. Such is also the case in the current study. Similarly, 15% of both males and females are responsible for 66.3% and 65.1% of all self-reported violent behaviour respectively. Table 4-4 shows specific correlations towards rule-breaking behaviour. Due to the nature of the outcome variable being extremely positively skewed, Spearman correlation was conducted.

Table 4-4: Spearman correlations for in-school rule-breaking behaviour

Instruments	Males (n= 534)	Females (n= 523)	Overall sample (N= 1,057)
Rule-breaking moral rules	.43 ***	.41 ***	.43 ***
Lack of guilt	.46 ***	.51 ***	.49 ***
Lack of shame	.35 ***	.38 ***	.37 ***
PPD-II	.55 ***	.61 ***	.58 ***
Impulsivity	.41 ***	.48 ***	.44 ***
Irresponsibility	.51 ***	.53 ***	.53 ***
Thrill-seeking	.43 ***	.46 ***	.45 ***
PPD-GM	.35 ***	.45 ***	.41 ***
Lying	.31 ***	.37 ***	.34 ***
Manipulation	.36 ***	.41 ***	.39 ***
Grandiosity	.17 ***	.25 ***	.23 ***

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension.
PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.
*= significant difference (p< .05)
**= significant difference (p< .01)
***= significant difference (p< .001)

Table 4-4 reviews the correlations between the measures and behavioural outcomes. Self-reported in-school rule-breaking behaviour showed high relationships with rule-

breaking moral rules. Lack of guilt was shown to be strongly related to the outcomes. The PPD-II dimension showed the highest correlation towards rule-breaking behaviour, while both types of PPD dimensions scored high correlation towards violence. All measures of SAT showed strong correlations. For males, all moral rules, lack of guilt, and lack of shame showed moderate to strong relationships. PPD dimensions also had moderate to strong correlations, with PPD-II showing the strongest correlations of the measures. For females, all measured relationships to rule-breaking behaviour seemed to have increased strength compared to their male counterparts. The only exception to this was moral rules, which decreased slightly while nevertheless displaying a strong relationship. Both PPD dimensions showed strong correlations, with PPD-II having the strongest correlation towards rule-breaking behaviour of all the measures, similar to the male sample. To summarise, results also indicated that males and females show similar associations between morality, PPD dimensions, and rule-breaking behaviour.

4.2.3. Accounting for variations in in-school rule-breaking behaviour

The next step was to understand the explained variability of rule-breaking behaviour that can be accounted for by morality and PPD. However, in order to conduct a linear regression, assumptions of normality have to be met ad hoc. Unfortunately, self-reported rule-breaking behaviour does not meet those assumptions on the basis of skewness and kurtosis. Figure 4-3 shows a visual representation of in-school rule-breaking behaviour and its deviation from normality. For this histogram only, frequency of rule-breaking behaviour was capped at 200. This was decided upon in order to produce a better representation for this figure. Throughout the analysis in this study, rule-breaking behaviour will not be capped at 200.

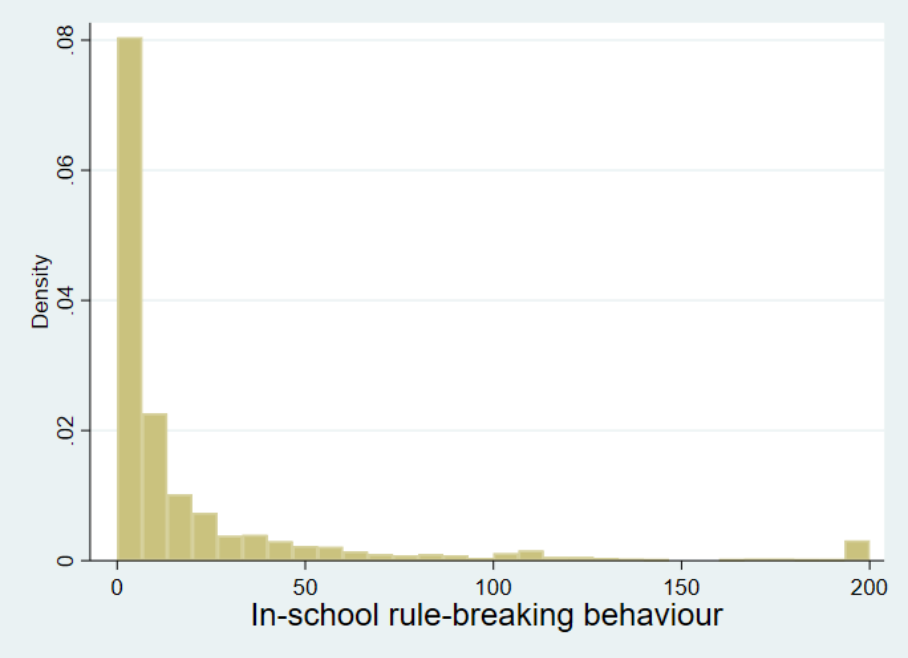

Figure 4-3: Histogram of in-school rule-breaking behaviour

At this point, two options remained: 1) transform rule-breaking behaviour using the log function and run a linear regression, or 2) keep the variable skewed, view it as count and not continuous, and then run either Poisson or Negative Binomial regression. First, a log transformation was conducted on rule-breaking behaviour to see whether it reduced the skewness and would not violate the assumptions of normality. However, this was not the case. Even after the transformation, data was visibly positively skewed. Therefore, a linear regression would not fit the data properly. Furthermore, interpreting the output of a positively skewed variable in a linear regression becomes very inaccurate. A decision was made to not transform the data and instead to view rule-breaking behaviour as count data and run either a Poisson or Negative Binomial regression. To conclude which technique would fit the data better, variable overdispersion was examined. If there was no overdispersion, a Poisson regression would be used. If overdispersion was present, a Negative Binomial regression would be used. Overdispersion is identified in an outcome variable if the variance does not equal the mean. This was the case for rule-breaking behaviour with a mean of 21.68 and a variance of 2678.06. Therefore, a Negative Binomial regression was decided upon in order to further examine the predictability of variables on rule-breaking behaviour.

4.2.4. Categorising predictive variables

In order to make better sense of the Negative Binomial regression results and the risk these predictors have towards behaving in a problematic way in schools, scores were divided into three categories for each variable. For moral rules, lack of shame, and lack of guilt, these scores were based on the median due to their slight positive skewness. This would most likely be a factor and disrupt groups if separation was made by the mean. A decision was therefore made to form groups based on the median rather than the mean, because the median is a more accurate method of capturing central tendencies of the data when dealing with skewness. Table 4-5 shows the number of pupils for each group. For moral rules, lack of guilt, and lack of shame, individuals falling within the 25%-75% of scores would be categorised as having moderate within this variable, and others would be classified in the extremity groups.

Table 4-5: Number of pupils classified in each group

Categorical variables	Males (n= 534)	Females (n= 523)
Rule-breaking moral rules	120	102
Moderate moral rules	250	285
Prosocial moral rules	164	136
Lack of guilt	128	79
Moderate lack of guilt	275	243
Low lack of guilt	128	201
Lack of shame	125	90
Moderate lack of shame	277	239
Low lack of shame	132	194

The next step was to understand whether these measures can accurately account for the variations within in-school rule-breaking behaviour. In order to do this, Negative Binomial regressions were conducted for males and females. For the SAT measures, moral rules, lack of shame and lack of guilt were examined. Morality plays an important

role in how individuals perceive the world around them and which actions they perceive as viable action alternatives. If an individual has rule-breaking morality, then the argument is that this individual will be more likely to perceive rule-breaking behaviour as an action alternative in an in-school situation.

Negative Binomial regressions with Incidence Rate Ratios (IRRs) are displayed in Table 4-6 for males and females for morality subscales on rule-breaking behaviour. IRRs are anchored based on the pupils classified lowest for each variable. The IRR is interpreted as the rate that rule-breaking behaviour occurs divided by the rate that rule-breaking behaviour occurs in the base group (for this study, the base groups are those scoring low in the relevant measures). For example, an IRR of 2 would mean that those pupils would be two times more likely to behave problematically in school compared to the base group. It is useful to keep in mind that IRRs are influenced by the rate of rule-breaking behaviour in the base group; therefore, if the base group has a high rate of rule-breaking behaviour to begin with, the IRR may be lower even though it is associated with a high frequency of rule-breaking behaviour. Conversely, if the base group has no incidents of rule-breaking behaviour, then any small increase will be represented in relation to that low base group.

It is important to note that IRRs are similar to but interpreted differently from odds ratios (OR), which are seen more commonly in the field. Put simply, odds ratios are the association between scoring high on the relevant measures and being problematic, while IRR is the association between scoring high on the measures and the risk of being problematic (Waltoft et al. 2015). Risk is the probability of rule-breaking behaviour occurring in association with all other outcomes, while odds are the probability of rule-breaking behaviour compared to the outcome of rule-breaking behaviour not occurring. The difference is in the comparison. Therefore, risk is dependent on the base group. When interpreting results, this needs to be considered. Therefore, comparing IRRs to one another is harder to interpret if their base group differs.

Table 4-6: Negative Binomial regression for SAT factors on rule-breaking behaviour for both males and females

	Males (n= 534)			Females (n=523)		
Variable	Coefficient	SE	IRR	Coefficient	SE	IRR
Rule-breaking moral rules	1.28 ***	1.28	3.58	.88 ***	.26	2.40
Moderate moral rules	.68 ***	.68	1.98	.25 ns	.26	1.28
(base=prosocial)						
Lack of guilt	1.69 ***	.28	5.41	1.51 ***	.26	4.52
Moderate lack of guilt	1.19 ***	.24	3.28	1.43 ***	.20	4.16
(base=low)						
Lack of shame	.02 ns	.40	1.28	.78 **	.25	2.19
Moderate lack of shame	.24 ns	.34	1.02	.46 ns	.30	1.59
(base=low)						

Note. SE= Standard error. IRR= Incidence Rate Ratios.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

n.s.= non-significance difference (p> .05)

When reviewing the first model for males, one thing is apparent: lack of shame does not significantly predict rule-breaking behaviour. This indicates that there is no statistically significant risk of increased rule-breaking behaviour for pupils with lack of shame or moderate lack of shame compared to pupils with low lack of shame, when taking into consideration other aspects of morality. However, in Table 4-1 to Table 4-3, correlations between lack of shame and lack of guilt were strong. This leads to the argument that multicollinearity is the potential reason for this non-significant relationship between lack of shame and in-school rule-breaking. The elements of lack of guilt and lack of shame linked to rule-breaking may be the similar, and therefore a regression model which contains both variables may only attribute this predictive value through one variable, lack of guilt. This is not to say that lack of shame is an irrelevant moral emotion.

Those with lack of guilt were 5.41 times more at risk to have increased rule-breaking behaviour at school. Even pupils who score moderate lack of guilt were 3.28 times more at risk over pupils with low lack of guilt. Lack of guilt showed itself to be highest at risk group towards an increase in rule-breaking behaviour when only taking morality into account. Rule-breaking moral rules also significantly predicted rule-breaking behaviour, with pupils being 3.58 times at risk to have increased rule-breaking behaviour.

For females, in the first model reviewing predictability of morality over rule-breaking behaviour, all three measures significantly showed an increase in risk. Lack of shame for females seems to be more impactful compared to lack of shame for males. This is an interesting find, as it may start to suggest that shame as a concept is more relevant in regards to behaviour in school for females, although this statistical difference between males and females is more likely due to the multicollinearity between shame and guilt rather than shame not being relevant to in-school rule-breaking behaviour. When reviewing the IRR of both sexes, similar effect sizes are found. This intrinsic emotion has elements of the social within it, particularly in a school setting. When taking into account the reactions of others, shame may influence females away from negatively viewed behaviour more so than males.

These regressions hint at a difference between the sexes, and while this difference should not be emphasised, both hover around a similar significant value and effect size. For males, it appears that lack of guilt is the strongest predictor, followed by moral rules, while for females, all three play a role statistically. Again, lack of guilt is still the strongest predictor, followed by rule-breaking moral rules and lack of shame. It can be argued that understanding the predictability of morality on rule-breaking behaviour is important. However, it should be noted that a better understanding would come from an integrative analysis that takes the morality measures and PPD dimensions into account and views their influence on rule-breaking behaviour. It would be useful to know if and to what extent these measures interact to increase or decrease the outcome of rule-breaking behaviour, this will be expanded on in Chapter 5.

4.3. Links between morality and PPD

This section starts to discover the association between morality and PPD dimensions. This is the theme of the first research question. As preliminary relationships to in-school rule-breaking behaviour have been reviewed in the previous sections, the next set of analyses will investigate the relationship between morality and PPD dimensions. These analyses set the stage for the further research questions. Understanding these relationships at a simple statistical level can also begin to give us some perspective of the actual/natural relationship between these latent concepts. As argued previously, there is a significant relationship between the individual characteristics of SAT involved in crime causation and the behavioural deviancies expressed in PPD.

4.3.1. The relationship of moral rules, lack of guilt, and lack of shame to PPD dimensions

As previously examined, a moderate to strong relationship between PPD dimensions/subscales and moral rules, lack of shame, and lack of guilt can be viewed. This leads to support of the hypothesis that these two fields of research, which have not been empirically examined before, have the possibility of being linked. A strong link between morality components of SAT and the PPD-II dimension are consistently viewed. Lower correlations are expressed between morality components and the PPD-GM dimension; however, this may be due to the lack of accuracy of morality in capturing more perceptions of manipulative-like behaviour. SAT tends to focus on more "conventional" rule-breaking most often seen in adolescence, rather than on PPD specific deviancies.

The next step is to view the explanatory power of all of the morality components in a single model. For this, linear regressions were conducted. The logic for this is to separate the explanatory power of the morality aspect and view each explanatory power separately, while control for the other components will then be followed by aggregate morality scores. As in the previous analysis, results for males and females on the PPD-II and the PPD-GM dimensions will be calculated.

Table 4-7: Linear regression for moral rules, lack of guilt, and lack of shame on PPD-II dimension for males (n= 534) and females

	Males (n= 534)		Females (n= 523)	
Variable	Coefficient	SE	Coefficient	SE
Rule-breaking moral rules	.31 ***	.07	.34 ***	.07
Lack of guilt	.94 ***	.22	.88 ***	.18
Lack of shame	-.15 ns	.16	.12 ns	.16
R2	.27 ***		.33 ***	

Note. SE= Standard error. IRR= Incidence Rate Ratios.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

n.s.= non-significance difference (p> .05)

Overall morality explained 27% for males and 33% for females of the variance for the PPD-II dimension, supporting a link between morality and impulsive behaviour (Table 4-7). This relationship was driven primarily by rule-breaking moral rules and lack of guilt, while lack of shame did not seem to hold much power. For both males and females, lack of shame did not significantly explain the PPD dimension, although multicollinearity may be the reason. This would seem to indicate that for males and females, these rule-breaking behaviours are more accurately understood by how individuals view these behaviours as either right or wrong and how much guilt they link with that behaviour.

Table 4-8: Linear regression for moral rules, lack of guilt, and lack of shame on PPD-GM dimension for males and females

	Males (n= 534)		Females (n= 523)	
Variable	Coefficient	SE	Coefficient	SE
Rule-breaking moral rules	.25 ***	.08	.11 ns	.10
Lack of guilt	.94 ***	.22	.99 ***	.18
Lack of shame	-.30 ns	.17	-.06 ns	.15
R2	.17 ***		.13 ***	

Note. SE= Standard error. IRR= Incidence Rate Ratios.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

n.s.= non-significance difference (p> .05)

The predictable impact of moral rules, lack of guilt, and lack of shame on the PPD-GM dimension was lower compared to the PPD-II dimension for both sexes (Table 4-8). Again, the driving variables were rule-breaking moral rules and lack of guilt, while lack of shame did not significantly explain the outcome. Overall, the model explained 17% for males. Similar results were viewed with females, where the model explained 13% of the variance in the PPD-GM dimension.

4.3.2. Overall morality scores and their link to PPD dimensions

Overall morality scores were created by combining moral rules and moral emotions scores. Although moral emotions differed slightly between males and females, moral rules and lack of guilt scores were standardised and aggregated to form an overall score for both sexes. Since lack of shame was theoretically determined to play an important role in leading females towards in in-school rule-breaking behaviour, it was incorporated into the overall score. SAT argues that lack of guilt and lack of shame are important for both males and females; however, the current results suggest sex differences.

In reviewing the correlation between PPD and SAT features presented in Table 4-1, Table 4-2, and Table 4-3 at the beginning of this chapter, moderate to strong relationships are found. For males and females alike, all three components of morality significantly correlated with both dimensions expressed in PPD, with lack of guilt producing the highest correlation of the three. When comparing PPD dimensions, PPD-II correlated the highest with morality components compared to PPD-GM. This was present for males and females. As this research question is more exploratory than explanatory, the strength of relationships between the measures of PPD dimensions and morality are unknown. However, significant relationships are expected. This is the first study aiming to integrate the two. In order to examine the relationship between morality and PPD dimensions, covariation of morality measures will be examined. Table 4-9 displays the correlates between PPD dimensions and morality scores.

Table 4-9: Aggregate morality score correlations with PPD dimensions and subscales for both males and females

Morality Pearson correlates	Males (n= 534)	Females (n= 523)
PPD-II	.49 ***	.55 ***
Impulsivity	.31 ***	.37 ***
Irresponsibility	.49 ***	.54 ***
Thrill-seeking	.38 ***	.45 ***
PPD-GM	.36 ***	.33 ***
Lying	.31 ***	.25 ***
Manipulation	.34 ***	.34 ***
Grandiosity	.20 ***	.19 ***

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension. ***= significant difference ($p < .001$)

The following tables show individual linear regressions for total morality scores on PPD dimensions. This is the first step to take when viewing the explanatory power of

SAT factors on deviancies expressed in PPD. What is more valuable with these individual OLS regressions is understanding the percentage of explained variance that SAT factors can account for in these deviancies. Furthermore, understanding how this explained variance differed between the sexes is also interesting in regards to how PPD is expressed. Table 4-10 to Table 4-17 display linear regressions for morality predictability on PPD dimensions and subscales.

Table 4-10: Linear regression examining morality score predictability on the impulsivity subscale of PPD for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.10	.37 ***	.05
Females' morality	.14	.44 ***	.05

Note. SE= Standard error.

***= significant difference (p< .001)

Table 4-11: Linear regression examining morality score predictability on the irresponsibility subscale of PPD for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.24	.61 ***	.05
Females' morality	.29	.70 ***	.06

Note. SE= Standard error.

***= significant difference (p< .001)

Table 4-12: Linear regression examining morality score predictability on the thrill-seeking subscale of PPD for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.15	.40 ***	.04
Females' morality	.20	.49 ***	.05

Note. SE= Standard error.

***= significant difference (p< .001)

In comparing the subscales for the PPD-II dimension, morality better explains the variation in the irresponsibility subscale. For females, 29% of the variation was accounted for, while 24% of the variation was accounted for in males. The impulsivity subscale was the weakest subscale in terms of predictability. From face validity, the explained variation in each subscale seems to be similar between the sexes.

Table 4-13: Linear regression examining morality score predictability on the total PPD-II dimension for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.24	1.37 ***	.10
Females' morality	.31	1.63 ***	.13

Note. SE= Standard error.

***= significant difference (p< .001)

When examining the explained variation of the total PPD-II dimension accounted for by morality, similar results are obtained for the sexes. For males, morality accounts for 24% of the variation in the PPD dimension, while morality accounts for 31% of the variation for females. Compared to the subscales displayed in Table 4-10 to Table 4-13, more variation in irresponsibility dimension is accounted for by morality compared to the impulsivity subscale.

Table 4-14: Linear regression examining morality score predictability on the lying subscale of PPD for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.10	.38 ***	.05
Females' morality	.06	.34 ***	.06

Note. SE= Standard error.

***= significant difference (p< .001)

Table 4-15: Linear regression examining morality score predictability on the manipulation subscale of PPD for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.12	.45 ***	.06
Females' morality	.10	.48 ***	.06

Note. SE= Standard error.

***= significant difference (p< .001)

Table 4-16: Linear regression examining morality score predictability on the grandiosity subscale of PPD for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.04	.26 ***	.05
Females' morality	.03	.27 ***	.06

Note. SE= Standard error.

***= significant difference (p< .001)

In examining the linear regression of subscales of the PPD-GM dimension in Table 4-14 to Table 4-17, it is apparent that morality accountability of the variation is diminished compared the subscales of the PPD-II dimension. Of all three subscales, morality explained the most variance in manipulation, with 12% for males and 10% for

females. When reviewing the lying subscale, 10% of the variance was explained for males, while only 6% of the variance was explained for females. Morality explained 4% of the variance expressed in grandiosity in males, while it explained 4% of the variance in females. Morality, as measured by SAT, does not seem to explain these subscales of PPD very well, leading one to believe that morality as we measured it does not capture the perceptions of interpersonal actions accurately. This may be something to pursue in future research.

Table 4-17: Linear regression examining morality score predictability on the total PPD-GM dimension for males (n= 534) and females (n= 523)

	R square	Coefficient	SE
Males' morality	.13	1.09 ***	.12
Females' morality	.11	1.09 ***	.14

Note. SE= Standard error.

***= significant difference (p< .001)

Similar to its subscale results, the PPD-GM dimension does not have much of its variance explained by morality compared to the PPD-II dimension. As the items within the morality concept do not question pupils' perceptions of interpersonal relationships and what is right or wrong about them, explaining this concept is currently limited. It might be interesting to inquire about personal views and moral emotions specific to interpersonal deviancies. It would be hypothesised that these regressions would have become much stronger with these items included.

4.4. Chapter summary

1. Preliminary rule-breaking behaviour associations

In-school rule-breaking behaviour was shown to vary between schools. This was more severe for females. As school level variation in explaining rule-breaking behaviour is beyond the scope of this study, robust standard errors clustered by schools were used

to control for this variability in the analyses. Lack of guilt was the strongest associated measure to in-school rule-breaking behaviour for the morality measures for males and females. In regards to PPD, the Impulsivity/irresponsibility dimension was the strongest linked to in-school rule-breaking behaviour.

2. Sex differences and morality

By conducting Negative Binomial regressions, the risk of higher in-school rule-breaking behaviour and morality factors was viewed. Lack of guilt does seem to be the most important factor in predicting rule-breaking behaviour. Lack of guilt was the strongest indication of higher rates of rule-breaking behaviour with lack of guilt being almost 5½ times more at risk than the group who showed the highest rates of guilt. Females with lack of guilt were just over 4½ times more at risk towards increased rule-breaking behaviour compared to females with the highest rates of guilt. Lack of shame for males was not predictive of the outcome, while females with lack of shame were over 2 times more likely to have increased rates of rule-breaking behaviour compared to females scoring the highest rates of shame. This lack of significance however, may be due to multicollinearity between lack of shame and lack of guilt. As both measures correlate strongly to one another, the elements of lack of shame that could explain rule-breaking behaviour are similarly captured in the lack of guilt, and therefore these elements are not independent, leading to regression inaccuracies.

3. Morality and PPD

This first research question raised in the study is aimed at understanding the strength of association between morality and PPD. This chapter focuses on answering that question and setting the stage for the second research question, which will be examined in the next chapter. Morality appears to better relate to the Impulsivity/irresponsibility dimension compared to the Grandiose/manipulation dimension of PPD. This is shown to apply to males and females alike. Both the irresponsibility and thrill-seeking subscales of the Impulsivity/irresponsibility domain seem to strengthen this association. The weaker association between morality and the Grandiose/manipulation dimension may be due to the morality measurement not capturing interpersonal behaviours. Overall, the

hypothesis predicting an association between morality and PPD has been supported; however, the strength of this association is lower than expected for the Grandiose/manipulation dimension.

Chapter 5: The moderating effect of morality when associating Psychopathic Personality Disorder with rule-breaking behaviour

The focus is on the second research question noted at the end of Chapter 2, with the aim being to empirically test the role of morality in the association between Psychopathic Personality Disorder (PPD) and in-school rule-breaking behaviour. This chapter builds off the empirical results reported in the previous chapter. Structural equation modelling (SEM) will be used as the foundation to test structural invariance (test of moderation) between morality and PPD dimensions. In summary, the results show that morality moderates the association between PPD dimensions and rule-breaking behaviour. These results are further discussed. The statistical strategy and model rationale are also described below.

5.1. Overview of chapter aim and key chapter findings

The focus of this chapter was to further understand the influence of morality as viewed by Situational Action Theory (SAT) on the Psychopathic Personality Disorder impulsivity/irresponsibility dimension (PPD-II) and grandiosity/manipulation dimension (PPD-GM) relationship to in-school rule-breaking behaviour. The analysis conducted in this chapter draws on the results learned in the previous chapter (Chapter 4).

In this chapter, two key findings were found:

- Moderation of morality was present between PPD dimensions and rule-breaking behaviour. This supports the second question (Can morality moderate the association between Psychopathic Personality Disorder dimensions and in-school rule-breaking behaviour?) and the SAT theoretical argument that morality can lead an individual towards or away from rule-breaking behaviour.
- Those scoring high on PPD dimensions but who had prosocial morality had lower rates of rule-breaking behaviour during a monthly period. This leads to the argument made in the first chapter that morality associated with PPD should not be predetermined and should be viewed separately.

The process leading to these analytical findings are broken down below.

5.2. Morality moderates PPD-dimension influence on rule-breaking behaviour: statistical strategy

Morality shapes the way individuals see the world around them. It impacts actions they take and perceive as acceptable or unacceptable depending on the situation. The moral filter is the initial step in the perception of rule-breaking behaviour; hypothetically, if an individual has prosocial morals, SAT argues that their moral filter would prevent them from perceiving the rule-breaking action as a viable alternative (Wikström 2010; 2018). It is only if this individual views a certain rule-breaking behaviour as a viable action alternative that PPD dimensions play a role in that behaviour. Having high scores on the PPD dimensions is relevant to rule-breaking behaviour, especially in adolescents with developing brains; however, this would only theoretically come into play if the individual's moral filter deems it as an acceptable action alternative in the first place.

PPD dimensions are better seen as an individual's vulnerabilities and predispositions, but they are not situation-specific like morality. Just because an individual has high PPD scores does not mean PPD will influence all of their behaviours. We are not constantly restraining ourselves from doing something bad, and we are not in need of strong self-control to restrain ourselves from every situation where a potential rule-breaking opportunity may occur. Many people do not need to exercise self-control in order to NOT steal coins from a homeless person, even if they could get away with it. And this goes for individuals with PPD as well. This is why PPD is better viewed as a vulnerability to behave and should not be confused with behaviour in itself. Behaviours are not guided by personality alone, and integrating them into the definition of PPD over-emphasises this link.

Figure 5-1 displays the theoretical overview derived from a morality perspective. An individual enters any situation with his or her PPD dimensions, which prompts sensitivities to engage in rule-breaking behaviour. The moral filter resides between the tendencies expressed in PPD dimensions and the action of rule-breaking behaviour. The moral filter influences someone's perception to move towards or away from rule-breaking behaviour according to the situation.

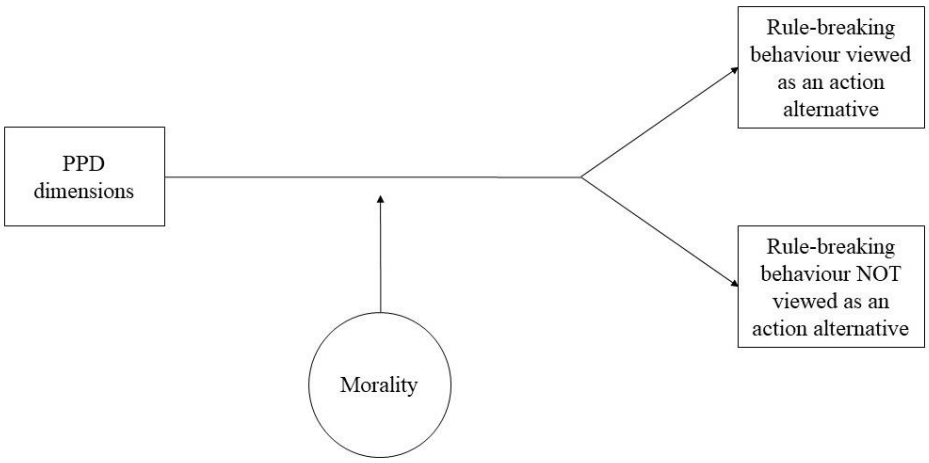

Figure 5-1: Theoretical model implicating the moderation effect of morality on the PPD dimension in order to better explain rule-breaking behaviour.

Note. PPD= Psychopathic Personality Disorder.

For SAT, morality is a combination of understanding what is right or wrong as well as how emotionally connected one is to these rules. People might easily say that murder and stealing are both wrong; however, many would also qualify this by saying that murder is a more emotionally charged behaviour than stealing. Understanding the rules and moral norms of the situation is only half the battle; how connected an individual is to those rules will also come into play and influence their moral filter. When reviewing this concept under the scope of PPD, it is commonly written and talked about that individuals with PPD know right from wrong but continue to behave antisocially (Cima et al. 2010; Hare 1999). Not surprisingly, the results in the previous chapter (Chapter 4) complement this argument, with PPD dimensions being more influenced by lack of guilt than by moral rules. Although rule-breaking moral rules were related to PPD dimensions, a stronger relationship was noted between lack of guilt and PPD dimensions. Interestingly, the relationship between lack of shame and PPD dimensions was weak for females and non-significant for males, suggesting that an intrinsic sense of guilt compared to extrinsic shame of what others would think drove the relationship between moral emotions, rule-breaking behaviour and PPD dimensions. To understand this interaction between morality and PPD dimensions in explaining in-school rule-breaking behaviour, structural equation modelling will be utilised.

5.3. General rationale and techniques behind structural equation modelling

Briefly, SEM is a family of statistical tests that specify relationships between observed and latent variables (Byrne 2012). Covariance structure analysis, analysis of covariance structures, and covariance structure modelling are also terms used in the literature to classify this type of analysis (Kline 2015). This family of analysis includes confirmatory factor analysis, path analysis, partial least squares path modelling, SEM (which we will be using in this study), and latent growth modelling (Kline 2011). The unique aspect of SEM that is beneficial for this research is its ability to have certain variables simultaneously be dependent and independent.

In general, there are potentially a few mixtures of models that can be classified as structural equation modelling, the first being only measurement analysis linking observed variables into latent structures, which is useful in developing psychological instruments such as the PCL-R. As explained in the rationale, most of the controversy involves how

to view the latent structures of the PCL-R and the interpretation of confirmatory factor analysis. Hare and Neumann (2005, 2006) would view it more as four underlying latent factors: Interpersonal (items: glib/superficial charm, grandiose self-worth…), Affective (items: lack of remorse or guilt, shallow affect, callous/lack of empathy…), Lifestyle (items: need for stimulation/proneness to boredom, impulsivity, irresponsibility…), and Antisocial (items: juvenile delinquency, revocation of conditional release, criminal versatility…). Cooke and Michie (2001) conducted a confirmatory factor analysis and concluded a three-factor latent structure of the PCL-R that included Deceitful Interpersonal Style (items: glib/superficial charm, grandiose self-worth…), Deficient Affective Experience (items: lack of remorse or guilt, shallow affect, callous/lack of empathy), and Impulsive and Irresponsible Behaviour Style (items: impulsivity, irresponsibility…).

As can be deducted, the same type of analysis on the same psychological instrument can deviate on outcomes. How is that? The double-edged sword of SEM is that it is sometimes (not always) a priori theoretically driven. The analysis is based on theoretical knowledge driving the analysis. This is primarily seen as a strength; however, as in the case of the PCL-R, it can lead to much disagreement over the outcome. It is therefore extremely important to understand the literature on a topic before conducting any one analysis of the SEM family.

The second type of SEM is classified as path analysis. Path analysis is essentially the examination of a structured model with only observed variables. It moves away from examining latent variables and instead looks specifically at the measured components and how they link to one another. Just like a regression, this path analysis forces the researcher to hypothesise directionality on variables and how one influences another or others. An observed variable in this context can be anything directly measured quantitatively. So, for example, this can be an individual's heart rate, an individual's rating from 0 to 10 on a self-esteem questionnaire, an annual salary, or for the relevance of this study, pupils' rates of rule-breaking behaviour for a one-month period. Pupils' morality, self-control, shame, and guilt scores can also be seen as observed variables in this context. Path analysis is one of the oldest SEM techniques (Kline 2015). Kline (2005: 93) describes path analysis as an "estimation of presumed causal relations among observed variables".

The third type is a combination of types one and two and is known as SEM. This is the technique being applied in this study. Similar to path analysis, SEM can help produce models which can uncover causal pathways, but unlike path analysis, these models have the potential to involve latent variables. Therefore, how a development or confirmation of theoretical knowledge on how latent constructs combine with observable variables to directly or indirectly explain an outcome is expanded upon in the next section.

5.3.1. Usefulness of SEM for this study

The question that might be asked is why use SEM, which is intricate, when regression models are so widely understood? The simple answer to this is the aspect of "pathways" and directionality that can be constructed from the SEM technique. As this analysis is set on relationships between variables and not a comparison of means, covariation and correlation between measures are at the centre of this technique. However, Kline (2015) goes on to stress that even though SEM was designed to understand the causal pathways between measurements, the simple expression of correlation does not mean causation is assumed, and the researcher needs to keep this in mind throughout the analysis. This is because SEM is the machine—better yet, it can be viewed as a car, while the theory/researcher is the driver. A car has the power to take you to your destination but only after a theory directs it towards that destination. With SEM, there may be infinite ways to model variables that would inevitably have different causal pathways as an outcome. And while they vary, these models could still statistically fit the data according to SEM. Therefore, it is useful to keep in mind that some of these pathways would, although perhaps fitting the data statistically, make no theoretical sense. Although causality is linked with SEM, this study will move away from using this language. It would be bold and arrogant to conclude that the structural pathways found in this study are causal.

The goal of SEM in this study is primarily to investigate the moderation effects of morality on PPD dimensions in explaining rule-breaking behaviour. For this to take shape, a theoretical justification for why the data is being modelled this way needs to be determined beforehand. As explained in the rationale, the directionality of this model is based on SAT. In fact, this would be the first study to use SEM to examine the relationship between SAT personality characteristics and PPD dimensions in order to see

whether these two separate concepts can complement each other to further explain rule-breaking behaviour.

Although no situational measurements are captured for this study, the model is based on a situational approach, which argues that individuals enter a setting with their predispositions, and depending on the situation, relevant personality factors interact with these predispositions to dictate rule-breaking behaviour. Of course, other aspects such as the environment and the circumstances leading up to a certain behaviour are also important, but the scope of this research is to understand the relevant personality and behavioural trends that lead someone to behave defiantly. PPD is argued to be viewed rather as the predisposition towards acting a certain way. While moral rules, lack of shame, and lack of guilt are viewed as individual components of SAT that contribute to crime causation, they are better understood as varying within the individual. Morality differs between people, but it also varies within an individual. For example, an individual with rule-breaking morality for shoplifting is not guaranteed to have rule-breaking morality for domestic abuse. It is therefore theoretically and conceptually important not to misconstrue moral rules, lack of shame, and lack of guilt as fixed personality traits or tendencies. Therefore, SEM models will examine the influence that moral rules, lack of shame, and lack of guilt have on PPD dimensions in leading an individual towards or away from rule-breaking behaviour. As explained in the previous chapter (Chapter 4), there needs to be some guidance to the manipulation, lying, impulsiveness, or thrill-seeking behaviour. No individual is always lying or always impulsive, even when in a setting conducive to these behaviours. This begs the questions, impulsive to what/manipulative to whom? PPD dimensions are expressed in different ways depending on an individual's morality. Two separate models will be examined, one for males and another for females. These models will examine the moderation effect of morality on PPD dimensions.

5.3.2. Moderation effects of morality on the expression of PPD towards rule-breaking behaviour

Moderation effects (sometimes labelled interaction effects) are defined as "a situation in which X's effect on Y varies as a function of some third variable M, the moderator variable" (Hayes 2009: 415). A popular way of analysing an interaction term

in social sciences is by including X and M and including the multiplicative moderation term of (X*M) in a regression model predicting Y (Edwards 2009). However, to view this interaction term of X*M as having a causal power is misleading. In regression models, the interaction variable stands alone from the original variables, while in the natural world, an interaction does not exist separately from the original variables it is created from, and therefore viewing it as a separate entity lacks meaning (ibid.). Therefore, utilising a technique which views the effect of the variables X and M separately on an outcome while this outcome is simultaneously being influenced by a separate X*M interaction variable is not realistic. It would be more realistic to view how the different levels in M change X's relationship to the outcome without the need of creating an interaction term.

One technique used as an alternative to multiplicative interaction terms is an SEM technique named structural invariance, which is based on a multiple-group approach. First, with an emphasis on theory (SAT), a moderator variable (morality) has to be determined. This is an important inclusion, because unlike the multiplicative technique used in regression analysis, where the specificity of which variable moderates and which variable is the independent variable is not applicable, in multiple-group analysis and structural invariance this distinction is needed.

Multiple-group analysis is based on this moderator variable being categorical. This means that a continuous or count variable would need to be categorised. Although there are some limitations pertaining to a loss of data sensitivity when categorising a continuous variable (Jose 2013), it can be a useful exercise, based on theoretical knowledge, to distinguish the moderator variable and the independent variable.

5.3.3. Structural invariance

The way in which multiple-group analysis reviews the presence of moderators is through the test of structural invariance. This test is based on the assumption that if a regression path does not vary in strength and stays equivalent/invariant between the groups of the categorical variable identified as the moderator, then no moderation is present. In relevance to this study, if the strength of the regression paths between PPD dimensions and in-school rule-breaking behaviour was not different across the different categories defined by morality levels, then it could be concluded that morality and PPD

dimensions do not interact to influence in-school rule-breaking behaviour. This would not refute that morality plays a role in influencing the outcome, but it would solidify the argument that morality and PPD dimensions play an independent role in influencing in-school rule-breaking behaviour. If, on the contrary, regression paths vary between moderator groups, it would indicate that PPD dimensions' influence on rule-breaking behaviour is impacted by morality. In that way, it could be argued that morality plays a part in guiding the personal sensitivities seen in PPD towards or away from rule-breaking behaviour.

The procedure to examine moderation through this technique is based on comparing a baseline model where paths are freely estimated across groups with a nested model where regression paths are restricted to be equal in strength across the moderator's categories (Byrne 2012). This is evaluated using a chi-square difference test, which tests for whether the baseline model and nested model fit the data equally well. If the chi-square test is non-significant, the baseline model and nested model are no different from one another, and invariance is present. This indicates that the strength of the regression paths between the two is similar in strength and there is no moderation present. If the chi-square test is significant and the model fit of the nested model is worse than that of the baseline model, moderation is present due to the varying strength in regression paths across the groups (ibid.). It also should be noted that sometimes the chi-square of the nested model is significantly better than the baseline model. In these cases, although significant differences were found, moderation should not be concluded.

Due to the outcome of in-school rule-breaking behaviour not being normally distributed, evaluating model fit between the baseline model and the nested model cannot be achieved via the conventional chi-square difference test. Consequently, the Satorra-Bentler scaled chi-square difference test will be used. This specific type of chi-square corrects for non-normal data firstly by adjusting the X^2 by a scaling correction factor in both models and secondly by calculating the differences between models with this new corrected scaling correction factor.

If we review the research questions and hypotheses of this study, the theory based on SAT would argue that moderation should occur and non-equivalence would be present. This would lead to a significant chi-square difference across the baseline and nested models. Theoretically, PPD dimensions are based on sensitivities and behavioural

tendencies, but they are not specific to any situation in particular. People bring into a situation these sensitivities or tendencies, which are then shaped into behaviours by the moral filter. PPD dimensions act as a trigger to motivate an individual through provocation or temptation. It is at this point in the decision making process where PPD dimensions interact with the moral filter and guide the individual towards or away from rule-breaking behaviour.

5.3.4. Measurement invariance

Before testing for structural invariance within a model with latent constructs, a crucial step needs to be assessed: measurement invariance (van de Schoot et al. 2012). Since structural invariance examines group differences between PPD dimensions and rule-breaking behaviour, it is important to make sure that if structural invariance is significantly different between morality groups, it is not due the variation in how PPD dimensions are measured between groups. In other words, if PPD dimensions have different factor structures (configural), item loading (metric), and item intercepts (scalar) between the groups, it becomes difficult to assess group differences between PPD and rule-breaking behaviour, as PPD is conceptually different between groups. First configural (factor structure is equivalent across groups) invariance needs to be established, once this has been reached, metric invariance (both groups are interpreting the instrument items in the same way) will be tested. Once metric invariance has been reached, scalar invariance will be tested (do both groups respond similarly to the items). Only after evaluating that configural, metric, and scalar invariances are equivalent between groups can measurement invariance be concluded (Campbell et al 2008). Without measurement invariance, structural invariance is uninterpretable and becomes a case of comparing apples and oranges.

Measurement invariance is first assessed by verifying whether latent concepts in both groups have the same factor structure (same items are contributing to the latent concept). When this is satisfied, factor loadings of each item are examined for proportionality to their counterpart in the other group. Finally, if loadings are deemed to be equal across groups, intercept (value) proportionality is comparable across groups. In all three steps, the former needs to be deemed equal across groups to move on to the next. Equivalence between groups in all three steps (factor structure, item loading, and item

intercepts) is assessed by chi-square model fit. Furthermore, these chi-squares of each model must be compared to assess the presence of measurement invariance.

5.3.4.1. Partial measurement invariance

Although highly useful to determine, measurement invariance is not always present between groups. When this is the case it is necessary to find out which items differ across groups using a technique called partial measurement invariance. "The goal of tests of partial [measurement invariance] is to find out which of the loadings or intercepts differ across groups. If only one of these is different across groups, we know that any differences on the latent variable can either be caused by a difference in this loading/intercept, or by the true latent variable group difference" (van de Schoot et al. 2012: 5).

5.4. The estimation method for this study

The technique of structural invariance in SEM provides us an opportunity to answer multiple research questions in this study. It helps us further understand the link between the theoretical underpinnings of SAT and how it relates to our current understanding of PPD. Unfortunately, using a technique such as a Negative Binomial regression to understand variance in count data is not possible when performing multi-group analysis. An alternative method used among researchers who have carried out SAT studies is analysing the non-transformed self-reported behaviour data with linear regressions at the centre of the SEM technique. The decision was made to not log-transform the self-reported behaviour data, as there have been criticisms of the interpretability of the log-transformed model estimates compared to the original data (Feng et al. 2014). However, all models accounted for non-independence of data due to clustering within schools, using the "type = complex" option in Mplus. Models were analysed with Mplus Version 8.1 (Muthén & Muthén 2017), and the robust maximum estimator (MLR) was used.

5.4.1. Assessing model fit for SEM

With this type of model building, before testing the size of the effect and significance of relationships, the first step is to see whether the model fits the data. These types of tests are critical before interpreting results, because if they do not meet the agreed cut-offs of a good model fit, the output and estimated results of an SEM model can be thrown into question. Since the SEM model does not fit the "real world" data, the calculations and interpretation of the results can lead to inaccuracies about "real world" relationships. Secondly, fit indices are also helpful in evaluating competing models so as to help the researcher understand which fits the data better. However, many social statisticians warn not to be over reliant on numbers and to keep one's theoretical framework in mind at all times (Kline 2015).

As explained above, there are potentially many ways to sort the data, which would consequently improve the model fit; however, many of these models may not be realistically interpretable. Just because a certain model fits the data better does not mean it is coherent. Take, for example, a scenario where we are using this type of analysis to understand what aspects are linked to domestic violence later in life. For this example, let's assume we want to see how early exposure to domestic violence during childhood might be a marker for later domestic violence in an individual's lifetime. Certain model fit indices might suggest that a better fitting SEM model would be if early childhood exposure to domestic abuse was predicted by domestic abuse later in that individual's life. Although it fits the data better, it is theoretically impossible that someone's experiences could be shaped by their behaviours in the future, so this model would contribute nothing to the research.

Like most statistical techniques, there are many different opinions about which fit indices are suitable for path analysis and which cut-off should be used for them (Byrne 2012; Kline 2015; Kenny & McCoach 2003). Depending on the fields of study and journals, a multiple of fit indices will be reported. In criminology and psychology, the most common are the Model Chi-Square; Root Mean Square Error of Approximation (RMSEA); Comparative Fit Index (CFI); Standardized Root Mean Square Residual (SRMR); Tucker Lewis Index (TLI); Akaike information criterion (AIC); and Bayesian information criterion (BIC). Each serves its own purpose, and for this reason, all of those mentioned above will be reported in this study.

On this topic, Kline (2015) argued that it is also useful to keep in mind five basic limitations of fit indices: (1) they are indices of overall fit, not specific parts of the model, (2) because each fit index serves a different purpose, reporting a single well-fitting fit index does not necessarily indicate a well-fitting model, (3) fit indices do not imply theoretical meaningfulness, (4) adequate fit does not imply predictive power of the model, and (5) the sampling distribution for many fit indices are unknown.

5.4.2. Model test statistic

Generally speaking, the model chi-square is better seen as an index of misfit, because it tests the overall significance between a hypothetically perfectly fitting model and the actual model being tested. Here, a non-significant result is strived for. One negative of this index is that a perfectly fitting model might not be realistic, and it is therefore unjust to compare a model with it. This could lead to an over sensitisation towards rejecting a model. It is also strongly affected by sample size (i.e. will over-reject models applied to larger samples).

5.4.3. Comparative (i.e. incremental) fit indices

The CFI and TLI are part of a group of indices that are aimed at assessing the improvement of fit to the model. This is done by comparing it to a hypothetical baseline null-model. The CFI is scored between 0 and 1. The TLI is non-normed so it can be larger than 1 and lower than 0. Anything above .9 for both indicates an acceptable fitting model and values of at least .95 indicates good fit (Hu & Bentler 1999; Holmes-Smith et al. 2004).

5.4.4. Absolute fit indices

RMSEA is commonly used in many fields. One reason for this is that is has a correction feature to compensate for model complexity. The rule of thumb cut-off score is $\leq .05$ (Browne & Cudeck 1992), however $\leq .06$ as a good fit, and $\leq .08$ as an acceptable fit has also been argued (MacCallum et al. 1996). The other absolute fit index that will be used is the SRMR, which assesses model fit by covariance residuals, meaning that a

perfect model would have no residual (=0) left over to be explained from the model. Arguably anything below .1 is favourable (Kline 2015).

5.4.5. Predictive fit indices

When assessing two different models based on samples of the same population, predictive fit indices help differentiate which model fits the data better. This is a comparative approach that assumes samples come from the same population; therefore, scores on predictive fit indices can be seen as scores relating to a population. This enables comparisons between two or more models (Kline 2015).

The AIC and the BIC are the two predictive fit indices that will be focused on to assess model fit for the SEM analyses in this study. To summarise, both the AIC and the BIC are estimations of the relative distance the path models displayed in this study are to the hypothetical truth, or in other words, the real model (Kline 2015). This signifies that each model, which comes from the same population, can be compared to one another in order to view which model is closest to the "absolute true hypothetical" model. The model with the lowest score on the AIC and the BIC is the model that fits the data more accurately. There are no cut-off scores, desired scores or significance testing that can be deduced from these two fit indices. Only scores from the same population can be compared, making the aim of calculating AIC and BIC to compare model scores in order to choose the model with the lowest score. These scores do not tell whether the model fits the data properly like other fit indices; they can only be compared to one another. This means that there is no guarantee that the model chosen based on the lowest AIC and BIC will in fact actually fit the data properly, which is the aim of other fit indices.

5.4.6. Model modification

When attempting to form a model that fits the data and that has theoretical relevance to the study, many initial models do not make the cut in terms of fit. There are two basic methods of model tuning which are normally used: model trimming and model building. Model trimming is based on a saturated model and simplified by eliminating paths (Kline 2005). Model building, which is used in this study, is normally used in cases where the initial model has minimum paths between observed variables. The decision was made to

go with model building rather than model trimming since simple models are preferable than complex models (for comprehension and future research). This is the principle of parsimony. Consequently, the most simplistic and theoretically relevant model is used as a starting point. The next step is to add directional paths or covariations between variables based on justified theoretical assumptions until the model has reasonable scores on fit indices. The new re-specified model is then fitted. Model re-specification in this study will be based on a model building approach.

5.5. Morality moderates the influence of PPD dimensions on rule-breaking behaviour: model testing

The techniques described above (i.e. structural invariance testing) will be applied to the current data to examine whether the relationship between PPD dimensions and rule-breaking behaviour was stronger for those with rule-breaking morality than those with prosocial morality. Figure 5-2 displays the base model in which interaction between morality and PPD dimensions will be calculated. Firstly, as this analysis is based on estimates of covariation between variables, Tables 5-2 to 5-4 are correlation matrices and descriptive statistics relevant to the model for males and females. This will then be followed by the original model and modified model fit indices, parameter estimates, and total effects. Unlike other correlation matrices in this study, due to the robust maximum likelihood estimation method that assumes linearity, rule-breaking behaviour covariation to other measures is assessed by a Pearson correlation and not by a Spearman correlation. Furthermore, aggregated subscales were used as items of the latent construct as done in Poythress and colleagues (2006) with the Youth Psychopathy Traits Inventory.

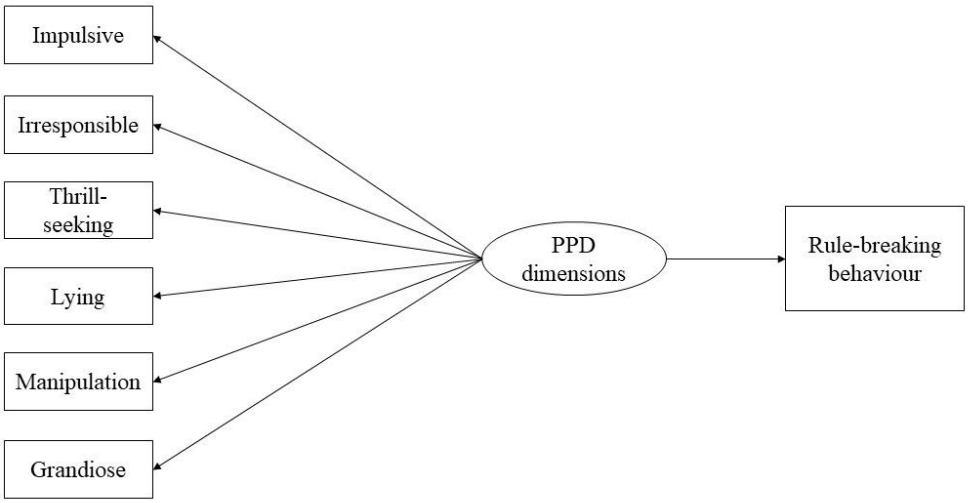

Figure 5-2: is the proposed base SEM model for this study.

Note. PPD= Psychopathic Personality Disorder.

Table 5-4 displays the Pearson correlation results for the overall pupil sample, while Table 5-2 and Table 5-3 display correlations specific to males and females respectively. Similar tables and correlations can be found in the previous chapter, when looking at basic findings. The difference is that rule-breaking behaviour correlations had previously been analysed with a Spearman correlation, while in these current tables rule-breaking behaviour is analysed with a Pearson correlation. Since our SEM models assume linearity, Pearson correlations are needed for transparency and results replication (Shalizi 2019). Furthermore, in the previous chapter, the focus was on the entire sample, while in this chapter we focus on the pupils who fall on either end of the morality spectrum. Table 5-1 displays the morality breakdown of these two groups. Pupils with morality scores falling one standard deviation below the mean and those with scores falling one standard deviation above the mean were categorised as either having prosocial or rule-breaking morality. This was done to test moderation of morality on the relationship between PPD dimensions and rule-breaking behaviour.

Table 5-1: Breakdown of components between morality groups

Group size	Prosocial (n= 156)	Rule-breaking (n= 175)	Total sample (N= 1,057)
Moral rules			
Mean	3.92	20.49	11.18
Variance	5.27	46.38	43.97
Skewness	.21	-.14	.94
Kurtosis	2.36	4.06	4.11
Lack of shame			
Mean	.17	7.07	2.61
Variance	.24	6.24	7.72
Skewness	2.94	.22	1.22
Kurtosis	10.48	2.72	4.08
Lack of guilt			
Mean	.90	7.73	4.05
Variance	.71	3.22	6.89
Skewness	.64	.29	.53
Kurtosis	2.75	3.01	2.74

The total of both morality groups was n= 331, indicating that 31.3% of the total sample fell outside one standard deviation from the mean for morality total scores. This is one of the main reasons why a larger than normal sample size (in the PPD literature) was collected. This allows us to view and compare how PPD interacts with rule-breaking behaviour in small subsets of a population that is not commonly researched.

Table 5-2: Prosocial morality group correlations: mean, standard deviation, skewness, and kurtosis for rule-breaking behaviour path analysis (n= 156)

Variables	1	2	3	4	5	6	7
PPD-II							
1. Impulsivity	1.00						
2. Irresponsibility	.48 ***	1.00					
3. Thrill-seeking	.46 ***	.22 ***	1.00				
PPD-GM							
4. Lying	.50 ***	.33 ***	.27 ***	1.00			
5. Manipulation	.35 ***	.26 ***	.23 ***	.56 ***	1.00		
6. Grandiose	.14 ns	.08 ns	.11 ns	.19 *	.44 ***	1.00	
School behaviour							
7. Rule-breaking behaviour	.22 **	.19 *	.19 *	.15 ns	.21 **	.17 *	1.00
Mean	5.13	2.08	6.88	3.72	4.62	3.22	4.33
Variance	7.73	5.32	6.86	7.25	9.42	10.31	198.26
Skewness	.45	1.78	-.13	.46	.31	1.14	5.21
Kurtosis	3.01	6.50	2.85	2.47	2.32	4.23	32.38

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension.

PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

n.s.= non-significant difference (p> .05)

Table 5-3: Rule-breaking morality group correlations: mean, standard deviation, skewness, and kurtosis for rule-breaking behaviour path analysis (n= 175)

Variables	1	2	3	4	5	6	7
PPD-impulsivity, irresponsibility dimension							
1. Impulsivity	1.00						
2. Irresponsibility	.54 ***	1.00					
3. Thrill-seeking	.48 ***	.43 ***	1.00				
PPD-Grandiose, manipulative dimension							
4. Lying	.39 ***	.39 ***	.36 ***	1.00			
5. Manipulation	.31 ***	.35 ***	.38 ***	.51 ***	1.00		
6. Grandiose	.28 ***	.18 *	.11 ns	.26 ***	.31 ***	1.00	
School behaviour							
7. Rule-breaking behaviour	.30 ***	.27 ***	.29 ***	.04 ns	.11 ns	.01 ns	1.00
Mean	8.19	7.06	10.33	6.97	8.33	5.55	50.06
Variance	7.80	12.74	7.97	11.91	12.47	12.95	5873.64
Skewness	-.31	-.07	-.37	-.03	-.15	.45	3.23
Kurtosis	3.21	2.33	2.96	2.53	2.78	2.95	16.36

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

n.s.= non-significant difference (p> .05)

Similar correlations were found between PPD subscales in both groups, although Thrill-seeking and Irresponsibility subscale correlations to other subscales seem to vary slightly between groups. Also worth noting was that rule-breaking behaviour's

correlations differed between groups. In the rule-breaking morality group, self-reported rule-breaking behaviour was more strongly linked to subscales associated with the Impulsivity/Irresponsibility dimension, while in the prosocial morality group, it was linked to all subscales somewhat equally (except for the Lying subscale). Finally, mean differences in self-reported rule-breaking behaviour vary. The prosocial morality group, on average, reported 4.33 rule-breaking behaviours occurring during a month, while the rule-breaking behaviour group averaged 50.06 rule-breaking behaviours.

Table 5-4: Combined morality group correlations: mean, standard deviation, skewness, and kurtosis for rule-breaking behaviour path analysis (n= 331)

Variables	1	2	3	4	5	6	7
PPD-impulsivity, irresponsibility dimension							
1. Impulsivity	1.00						
2. Irresponsibility	.64 ***	1.00					
3. Thrill-seeking	.60 ***	.57 ***	1.00				
PPD-Grandiose, manipulative dimension							
4. Lying	.55 ***	.54 ***	.49 ***	1.00			
5. Manipulation	.48 ***	.52 ***	.49 ***	.63 ***	1.00		
6. Grandiose	.34 ***	.31 ***	.26 ***	.34 ***	.46 ***	1.00	
School behaviour							
7. Rule-breaking behaviour	.38 ***	.42 ***	.39 ***	.21 ***	.27 ***	.14**	1.00
Mean	6.75	4.71	8.70	5.44	6.58	4.71	28.50
Variance	11.14	15.42	10.39	12.31	14.43	15.42	3712.80
Skewness	.10	.57	-.10	.34	.15	.57	4.26
Kurtosis	2.54	2.22	2.61	2.46	2.41	2.22	26.99

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.

*= significant difference (p< .05)

**= significant difference (p< .01)

***= significant difference (p< .001)

n.s.= non-significant difference (p> .05)

The table above was produced for transparency of replication. All 331 pupils who were categorised as having either prosocial or rule-breaking morality were combined for the SEM model. Figure 5-3 displays this model again. This model and all models below

were corrected for non-independence of data arising from the fact that multiple pupils were selected from the same school. The next section is set to examine whether the model fits the data.

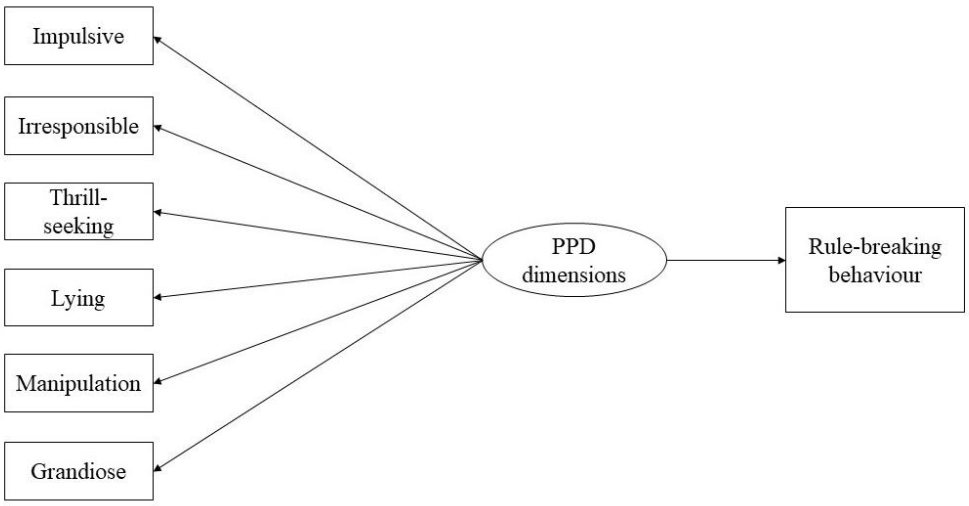

Figure 5-3: SEM model for PPD dimensions and rule-breaking behaviour

Note. PPD= Psychopathic Personality Disorder.

5.6. Structural model for the morality groups

5.6.1. Fit indices between original model and re-specified models

The first step was to review whether the original model displayed in Figure 5-2 actually fit the data. As expected, the fit indices showed weak fit. Two covariances/correlations were added to the model, the first between the Lying and Manipulation subscales and the second between the Grandiose and Manipulation subscales. These covariances/correlations were deemed theoretically valid and added to the model since all three of these variables share a second common influence unrelated to PPD, extraversion (Lee & Ashton 2005). This re-specified model was assessed for model fit. Table 5-5 displays differences between the original model and the re-specified models for all pupils in the study.

Table 5-5: Fit indices for the combined morality group models

Achieved fit indices for original and re-specified SR models							
	X^2	RMSEA (90% CI)	SRMR	CFI	TLI	AIC	BIC
Original SEM model	73.15	.113	.047	.917	.876	13562.80	13642.64
Re-specified SEM model (Lying/Manipulation correlation)	44.70	.086	.042	.956	.928	13533.17	13616.82
Re-specified SEM model (Lying/Manipulation & Grandiose/Manipulation correlations)	**23.33**	**.053**	**.028**	**.984**	**.972**	**13512.02**	**13599.47**

Note. X^2= chi-square. RMSEA= Root Mean Square Error of Approximation. SRMS= Standardized Root Mean Square Residual. CFI= Comparative Fit Index. AIC= Akaike Information Criterion. BIC= Bayesian Information Criterion. CI= Confidence Intervals.

In reviewing the model fit indices compared to the original model, lower chi-square, RMSEA, and SRMR are all showing better fit. CFI and TLI in all three models show good model fit, and AIC and BIC show a small decrease, indicating that the re-specified model fits the data better.

5.6.2. Viewing the results of the combined morality group re-specified model

After re-specifying the model with both correlations, the model coefficients were assessed. This model included factors for PPD dimensions as predictors of rule-breaking behaviour as depicted in Figure 5-3. Table 5-6 displays coefficient estimates for all pupils.

Table 5-6: Standardised coefficients for the overall model (N= 331)

Parameter	Estimate	SE	Parameter	Estimate	SE
Factor loadings			Residuals		
PPD-II -> Impulsivity	.803	.034	Impulsivity	.354	.054
PPD-II -> Irresponsibility	.800	.023	Irresponsibility	.360	.037
PPD-II -> Thrill-seeking	.733	.030	Thrill-seeking	.463	.044
PPD-GM -> Lying	.673	.040	Lying	.547	.054
PPD-GM -> Manipulation	.641	.039	Manipulation	.589	.050
PPD-GM -> Grandiose	.405	.047	Grandiose	.836	.038
Direct effects			Rule-breaking behaviour	.777	.033
PPD-II -> Rule-breaking behaviour	.473	.035			
Model correlations					
Lying & Manipulation	.337	.071			
Grandiose & Manipulation	.254	.060			

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension. All estimates are significant ($p < .001$).

In the previous chapter, where the influence of PPD dimensions on rule-breaking behaviour was analysed separately, in this model we analysed them together under one latent construct. This was prompted by the high correlation between the PPD-II and the PPD-GM leading to multicollinearity. Furthermore, it was decided that it was more comprehensible to include both PPD-II and PPD-GM under one model instead of separating the model in two and doing two separate analyses. Although these two separate models would have been theoretically valid, understanding an overall PPD latent construct interaction with morality is what has been emphasised in the first two chapters of this thesis.

5.7. Morality as a moderator: multiple-group analysis and structural invariance

To examine whether there is a significant moderation effect of morality on PPD dimensions' influence on rule-breaking behaviour, structural invariance within a multiple-group analysis was used. As moderation is based on morality, pupils were divided into either having prosocial morality (n= 156) or rule-breaking morality (n= 175). Structural invariance within the multiple-group analysis is based on the comparison of these two groups.

5.7.1. Measurement invariance for the latent PPD dimensions construct

Comparisons across groups are only meaningful if the measures that capture the construct used have functioned equivalently, hence the resulting constructs have the exact meaning for the people in the different groups. This was evaluated using tests of measurement invariance. Table 5-7 displays the model fit of the measurement invariance test between groups. First, the re-specified model with two correlations (Lying & Manipulation; Grandiose & Manipulation) was assessed.

The steps to test measurement invariance has been previously described in section 5.3.4. (Measurement Invariance) of this chapter. The metric vs. configural showed significant differences leading to inequality of measurements between groups. Therefore, partial measurement invariance was used. After freely estimating the loading factor of the Irresponsible subscale, metric vs. configural differences became non-significant and conclusions were made that factor structure and factor loading reached partial measurement invariance. However, the scalar vs. metric differences remained significantly different. It was only after freely estimating the intercepts of the Irresponsible and Impulsivity subscales that the scalar vs. metric differences became non-significant. In other words, partial measurement invariance was reached, and therefore conclusions can be made that any differences in the strength of the path from PPD to in-school rule-breaking between groups can be a consequence of the relationship between PPD dimensions and rule-breaking behaviour or caused by a difference in the loading/intercept of the Irresponsible or Impulsivity subscales.

Table 5-7: Model fit of measurement invariance for the PPD dimensions between morality groups

Model	Actual fit			Difference in fit		
	X^2	df	Sig.	ΔX^2	Δdf	Sig.
Config	**13.13**	**14**	**.516**	-	-	-
Metric	24.91	19	.164	13.06	5	.023
Metric difference (Irresponsible)	**17.17**	**18**	**.512**	**4.10**	**4**	**.392**
Scalar difference (Irresponsible) & scalar difference (Irresponsible)	34.18	22	.047	-	-	-
Scalar difference (Irresponsible) & scalar differences (Irresponsible /Impulsivity)	**19.85**	**21**	**.531**	**2.676**	**3**	**.444**

Note. X^2= chi-square. df= Degrees of freedom. Sig= significant.

5.7.2. Structural invariance between morality groups

The first step in evaluating structural invariance after assessing for measurement invariance was to run the model in which regression coefficients are freely estimated between groups. Figure 5-4 represents the standardised coefficients for the prosocial and rule-breaking morality groups. Furthermore, Table 5-8 represents the model fit indices for this freely estimated multiple-group analysis model. Now in Figure 5-4, differences in the relationship between PPD dimensions and rule-breaking behaviour can be noticed (.30 vs. .36). Unstandardised factor loadings are display for all factor loadings except Irresponsible since measurement invariance was not reached.

Structural invariance tested to see if this was a significant difference between groups. This was done by comparing the freely estimated model and a nested model where this relationship was assumed to be equal. If these two models do not differ in their chi-square, it can be said that restricting these two groups to have the same path strength does not significantly worsen the model, and this path can therefore be assumed to be similarly strong in the freely estimated model as well. This would indicate that there is no difference in the strength of the relationship between morality groups. Since the outcome variable deviates from normality, the Satorra-Bentler chi-square test is used. As the first two chapters of this thesis argue that PPD is a morality-loaded concept and that both of these concepts should be viewed separately to better understand the relationship between

PPD and rule-breaking behaviour, it would be expected that a significant difference would be found for morality groups.

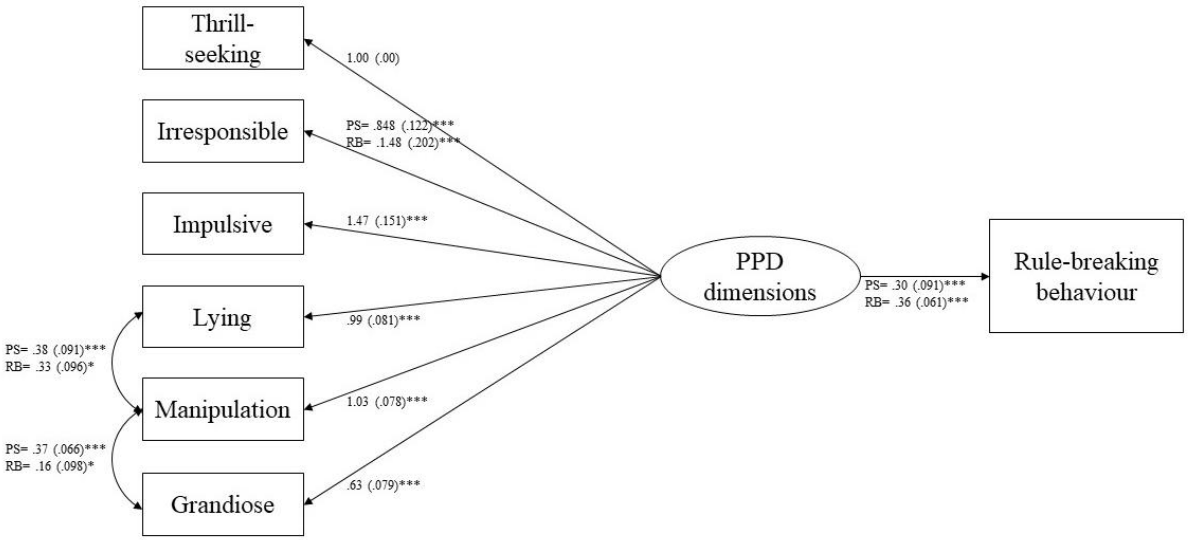

Figure 5-4: unstandardised coefficients for morality multiple groups

Note. PPD= Psychopathic Personality Disorder. SAT= Situational Action Theory. CU= Callous/Unemotional. II= Impulsive/Irresponsible. GM= Grandiose.Manipulative. PS= prosocial morality. RB= rule-breaking morality

Below in Table 5-8 is a breakdown of the model fit for the freely estimated multiple-group analysis model. This incorporates the two correlations (Lying & Manipulation; Grandiose & Manipulation) as well as the partial measurement invariance (metric: Irresponsible; scalar: Irresponsible & Impulsivity).

Table 5-8: Model fit for the morality multiple-group analysis

Achieved fit indices for original and re-specified SR models							
	X^2	RMSEA (90% CI)	SRMR	CFI	TLI	AIC	BIC
Morality multiple group model	32.90	.019	.047	.995	.994	12937.21	13085.50

Note. X^2= chi-square. RMSEA= Root Mean Square Error of Approximation. SRMS= Standardized Root Mean Square Residual. CFI= Comparative Fit Index. AIC= Akaike Information Criterion. BIC= Bayesian Information Criterion. CI= Confidence Intervals.

Next, these differences in coefficients between the morality groups were tested. While investigating this link in the SEM models, the path from PPD dimensions towards rule-breaking behaviour is where the importance emerges regarding pupils with prosocial and rule-breaking morality. This change in the path based on morality groups represented the perception-choice process represented in Figure 5-1 at the beginning of this chapter. This perception choice process is the main mechanism of SAT leading a pupil towards or away from rule-breaking behaviour. PPD dimensions are better viewed as people's predispositions to behave a certain way, but these tendencies are not the only influencers of behaviour. Morality guides people's behaviours towards or away from rule-breaking behaviour. Therefore, pupils who score high on PPD dimensions but also have prosocial morality will be less likely to view rule-breaking behaviour as an action alternative in situations, leading them to a lower amount of rule-breaking behaviour. This is nicely represented above in Figure 5-4. This visual representation of the interaction between morality and PPD dimensions is needed to understand the relationship; however, more robust analysis were used to see whether morality significantly moderates the relationship between PPD and rule-breaking behaviour. Figure 5-5 displays the path between the latent PPD variables and rule-breaking behaviour in the model where moderation will be evaluated. Although the entire model will be analysed, only the paths from the figure below will be restricted. From there, variations in model fit will be examined between the baseline model and the nested model with the constricted path.

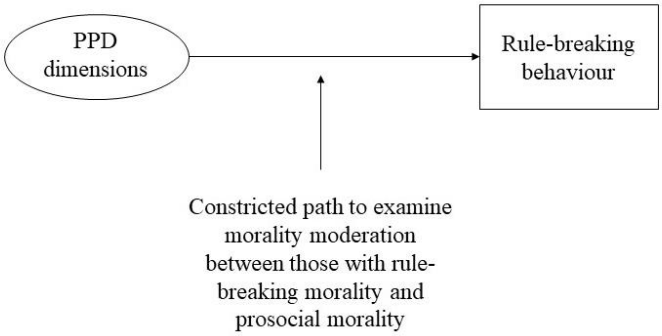

Figure 5-5: Paths in the models where structural invariance will be performed

To view moderation effects based on structural invariance, two models are compared. The first is classified as the baseline model, where all paths in the model are freely estimated, including the path towards rule-breaking behaviour from one of the PPD dimensions. In other words, these paths are not restricted by morality groups. This has already been assessed in Figure 5-4, and the model fit of this model is broken down in Table 5-8. The second model being compared is the nested model, where the path between rule-breaking behaviour and a PPD dimension is constrained to be equal for both morality groups. As explained earlier, if there is no difference in the Satorra-Bentler scaled chi-square model fit between the baseline model and the nested model, then this indicates that constricting the paths of both groups to be equal does not decrease overall model fit. This therefore leads to the assumption that both groups did not differ significantly on this path in the baseline model either.

Comparison of the chi-square value for each of the two models is done using the Satorra-Bentler scaled chi-square difference test, because the outcome of rule-breaking behaviour is not normally distributed. Table 5-9 displays a comparison between the baseline model and the nested models.

Table 5-9: Morality multiple-group Satorra-Bentler scaled chi-square difference

Baseline model			Nested model			Absolute difference		
df	X^2	SCF	df	X^2	SCF	Δdf	ΔX^2	ΔSCF
31	32.898	1.0953	32	44.224	1.0995	1	10.239**	1.2297

Note. X^2= chi-square. df= Degrees of freedom. Sig= significant. SCF = Scaling correction factor.

**= significant difference (p< .01)

The absolute differences between the models based on the Satorra-Bentler test showed significant differences between the nested groups and baseline group. The nested model showed significantly higher chi-square model fit compared to the baseline, therefore morality moderation was present. This suggests there is a significant variation in the strength of the path from PPD to rule-breaking behaviour between pupils with prosocial morality and those with rule-breaking morality. More specifically, the path from PPD to rule-breaking behaviour in those with rule-breaking morality is significantly stronger compared to this path when examining those with prosocial morality.

To further visualise and break down the moderation effect of morality over the influence of PPD dimensions on rule-breaking behaviour, an interaction graph was constructed. First, morality was again separated into two groups based on one standard deviation from the mean. In these interaction graphs, PPD, PPD-II, and PPD-GM were separated into high and low scores based on mean scores. Table 5-10 displays the number of pupils who were placed in each category.

Table 5-10: Number of pupils in morality and PPD-II groups (n= 331)

	PPD-II dimension	
	Low scores	High scores
Prosocial morality	131 (39.5%)	25 (7.5%)
Rule-breaking morality	59 (17.8%)	116 (35.0%)
	PPD-GM dimension	
	Low scores	High scores
Prosocial morality	115 (34.7%)	41 (12.4%)
Rule-breaking morality	42 (12.7%)	133 (34.1%)
	PPD dimensions total	
	Low scores	High scores
Prosocial morality	131 (39.6%)	25 (7.5%)
Rule-breaking morality	31 (9.4%)	144 (43.5%)

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension. PPD= Psychopathic Personality Disorder.

As assumed from the results correlating morality and PPD in the previous chapter (Chapter 4), a high number of pupils who scored low or high scores on PPD dimensions or subscales also scored this same range on the morality components. The category with the lowest number of pupils was consistently pupils with high PPD or PPD dimensions and prosocial morality.

The next analysis helps us visualise how morality and PPD dimensions interact to magnify or reduce the frequency of rule-breaking behaviour. Interactions are also a useful way to test one of SAT's main arguments, i.e. that an individual's behaviour, whether habitual or not, is filtered by their morality. For an individual to behave a certain way, they must first perceive that behaviour as a viable option. Therefore, PPD dimensions would theoretically interact with morality. Individuals low on PPD scores but who also have rule-breaking morality would still have a high frequency of rule-breaking behaviour. Those who score high on PPD dimensions and who also have rule-breaking

morality should have a magnified rate of rule-breaking behaviour. Understanding how an individual's morality can shape a number of rule-breaking behaviours other than actual criminal behaviour increases support of this theory.

Variations in rule-breaking behaviour frequency by PPD dimension scores and morality were examined through interaction trends. The frequency of rule-breaking behaviour in the interactions is again based on the median and not the mean. Rule-breaking behaviour is extremely positively skewed, and therefore the median is a better representation of the central tendencies of each group.

As moderation through structural invariance was found between morality groups, these next figures (Figure 5-6 to Figure 5-8) help to visually represent this interaction. More specific than the Satorra-Bentler chi-square, these figures display the PPD dimensions interaction as well as the PPD-II and PPD-GM interactions with morality. From these figures, it is apparent that those who have prosocial morality, regardless of PPD scores, have very low rates of rule-breaking behaviour over the course of a month, while PPD interacts with those with a rule-breaking morality to magnify the rate of rule-breaking behaviour. This supports the argument of SAT that morality can lead an individual towards or away from rule-breaking behaviour.

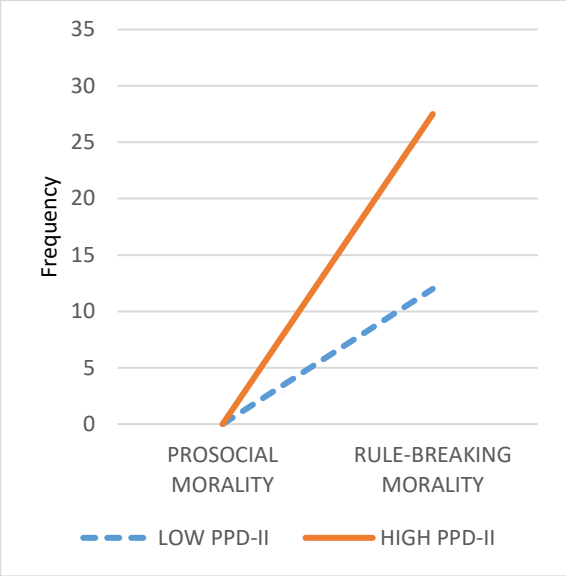

Figure 5-6: Interaction between morality groups and the PPD-II dimension for median frequency of in-school rule-breaking behaviour for a month

	PPD-II dimension	
	Low scores	High scores
Prosocial morality	0	0
Rule-breaking morality	12	27.5

Table 5-11: Amount (median) of in-school rule-breaking for a month for each of the four groups of PPD-II and morality

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible dimension.

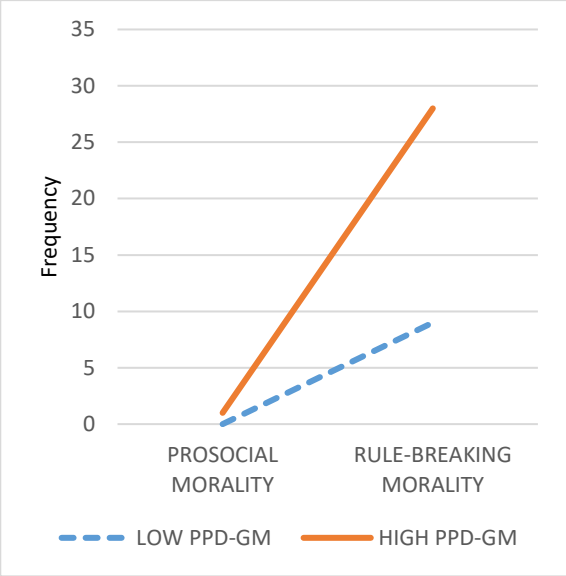

Figure 5-7: Interaction between morality groups and the PPD-GM dimension for median frequency of in-school rule-breaking behaviour for a month

	PPD-GM dimension	
	Low scores	High scores
Prosocial morality	0	1
Rule-breaking morality	9	28

Table 5-12: Amount (median) of in-school rule-breaking for a month for each of the four groups of PPD-GM and morality

Note. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative dimension.

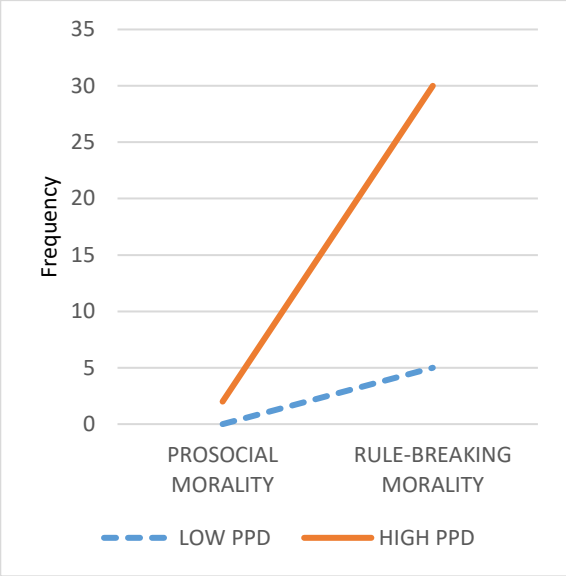

Figure 5-8: Visual interaction between morality groups and the PPD-dimension (total) for median frequency of in-school rule-breaking behaviour for a month

	PPD dimensions total	
	Low scores	High scores
Prosocial morality	0	2
Rule-breaking morality	5	30

Table 5-13: Amount (median) of in-school rule-breaking for a month for each of the four groups of PPD dimensions (total) and morality

Note. PPD= Psychopathic Personality Disorder.

Visual representation of interaction is a simple and quick method of understanding how different groups with multiple categories compare to one another. Furthermore, rule-breaking morality and high PPD scores showed the highest frequency of rule-breaking behaviour in all three figures. The lowest scoring group for all analyses was the prosocial morality and low PPD group, which also supports one of SAT's core assumptions. Regardless of the crime, SAT argues that morality has a role to play in behaviours that break moral rules, irrespective of other predispositions.

5.8. Chapter summary

1. Structural equation modelling used for this study

As the previous chapter focused on the first research question (Is there a relationship between morality (moral rules and moral emotions) captured by Situational Action Theory and the Psychopathic Personality Disorder dimensions?), this chapter focused on the second research question (Can morality moderate the association between Psychopathic Personality Disorder dimensions and in-school rule-breaking behaviour?). Structural equation modelling (SEM) was concluded to be the most viable option to answer this question. As rule-breaking behaviour was highly skewed, a robust maximum likelihood method was used. This model and all models afterwards were also corrected for non-independence of data arising from the fact that multiple pupils were selected from the same school. SEM allows a model to be built to investigate the relationship between PPD and rule-breaking behaviour and subsequently to potentially investigate the moderation of morality through the process of multi-group analysis. Unlike normal multiplicative interaction terms in regression models (X*M), moderation in a multi-group analysis separates the independent variable (PPD) from the moderator (morality). Furthermore, in regression models, the interaction variable stands alone from the original variables, while in the natural world, an interaction does not exist separately from the original variables it is created from; therefore, viewing it as a separate entity lacks meaning (Edwards 2009). Only those who scored on the extremities of morality (one standard deviation from the mean) were used for this analysis. Overall 331 pupils (prosocial morality= 156; rule-breaking morality= 175) were analysed in this model. Original model fit was poor and therefore two correlations (Lying & Manipulation; Grandiose & Manipulation) were added through the process of model building.

2. Structural invariance test of morality as a moderator

One benefit of using structural equation modelling (SEM) is its ability to examine the effect of moderators within a model. Therefore, the technique of structural invariance through the analysis of multi-group analysis was used to test morality's moderation effect over the association of PPD dimensions with in-school rule-breaking behaviour. Before reviewing structural invariance, measurement invariance was assessed. This is a crucial

stage, because if latent constructs have different factor structure, factor loading, and intercepts between groups, then potential effects found through structural invariance may be a result of differences in latent constructs between groups and could lead to misinterpreted conclusions about moderation. Between groups, measurement invariance was not found, and partial measurement invariance was therefore assessed. Partial measurement invariance was reached and conclusions were thus made that any structural invariance found between groups may be a consequence of the relationship between PPD dimensions and rule-breaking behaviour or caused by a difference in the loading/intercept of the Irresponsible or Impulsivity subscales.

3. Morality as a moderator

Since a robust maximum likelihood method when analysing Structural Invariance was being used, the Satorra-Bentler scaled chi-square test rather than the model chi-square was used to test the moderation effect of morality. This test is carried out when the estimation method used is non-normal. The logic behind this significant difference in model fit is that if there is no difference between the freely estimated model (baseline) and the constricted (nested) model, it can be assumed that the baseline model presents similarities between morality groups on this path, and that the path is similar in strength across the groups. However, when investigating the difference in the Satorra-Bentler chi-square test for model fit between the baseline model and nested model, a significant difference was found, indicating that moderation of morality was present between PPD dimensions and rule-breaking behaviour. This supports the second hypothesis and SAT's argument that morality can lead an individual towards or away from rule-breaking behaviour. To further understand and visualise this moderation effect, simple interaction figures were produced.

4. Interaction between morality and PPD

Figure 5-6 to Figure 5-8 at the end of this chapter help us to visualise and further decipher the moderation effect of PPD and morality on rule-breaking. These graphs are based on the morality groups in the SEM model, and PPD-II, PPD-GM, and PPD dimensions were all split at the mean to create high and low scoring groups. As can be

viewed, even those scoring high on PPD dimensions but who had prosocial morality had lower rates of rule-breaking behaviour during a monthly period, while those with high PPD scores and rule-breaking morality had the highest rates of rule-breaking behaviour registered. This leads to the argument made in the first chapter that morality associated with PPD should not be assumed and should be viewed separately. This is further discussed in the next chapter (Chapter 6).

Chapter 6: Summary and key conclusions - The relationship between Psychopathic Personality Disorder and rule-breaking behaviour is better understood in a Situational Action Theory Framework

This chapter summarises the key arguments of this thesis and the key findings from the data analyses. The results of this study support the concerns raised in Chapter 1 and Chapter 2, showing that the relationship between Psychopathic Personality Disorder and rule-breaking is better understood within a Situational Action Theory (SAT) framework. This principle stresses the importance of not simply aggregating PPD dimensions together and trying to understand them under a single label.

6.1. Theoretical overview of the study

Psychopathic Personality Disorder (PPD) currently has a problematic dual objective: (1) to describe coherent personality characteristics and (2) develop a set of personality and behavioural characteristics that predict (and some argue explain) rule-breaking behaviour and criminal behaviour. The importance of PPD's ability to predict criminal behaviour is well recognised, with some even arguing that PPD is the single best predictor of violent offending (e.g. DeLisi 2016; Douglas et al. 2006; Harris et al. 2006). Consequently, these two distinct and separate objectives pull the conceptual development of PPD into two separate directions. This dual objective leads to:

- Debate about the differences in conceptualising PPD
- Misconceptions about the relationship between personality and behaviours
- Assumption of predetermined PPD morality and motivations

Although over the years many symptoms that have come to pigeonhole the disorder have been removed, viewing individuals as deviant and at the periphery of society has remained. Unfortunately, instead of understanding and breaking down these individuals' disorder, we have resorted to aggregating their various deviances and scoring them on a predictive model of general and violent recidivism. This does nothing to further our understanding of the cause of the problem.

The overall research aim of this study is to view whether PPD can be better understood in an Situational Action Theory (SAT) framework in order to further understand its relationship to rule-breaking behaviour. The aim has emerged through the question posed in this thesis: ***What are we trying to explain with the conceptualisation of PPD?*** This objective of predicting rule-breaking or criminal behaviour only increases the confusion surrounding the concept. For example, this conceptual distortion can be seen when the strength of its associations with criminal behaviours is regularly used to validate the disorder's components over developmental periods and across different populations. Currently, PPD is pressured to act as a predictor of rule-breaking behaviour. This makes it is difficult to understand the true relationship between the disorder and rule-breaking behaviour, as elements irrelevant to a personality disorder are incorporated into the conceptualisation.

It is improbable that traits characteristic of PPD (e.g. egocentricity, callousness, irresponsibility, weak empathy, impulsivity, risk seeking) would be viewed as a unitary construct naturally occurring within individuals if this emphasis on criminal behaviour was absent. It is therefore important to raise the concern over the direction the conceptual development is taking. Viewing PPD as a piece of the puzzle, instead of over-including correlates of crime in the concept and trying to treat PPD as the whole puzzle of crime causation, can change our perspective and views around the disorder. This would help us gain a better understanding of the link between PPD and crime. This does not hide the reality that some of these individuals do end up being highly impulsive and antisocial, and it might appear pointless to move away from this criminal underpinning, which seems to be the real problem when dealing with PPD. However, while some individuals may well be "untreatable", this emphasis on predetermined rule-breaking behaviour can lead to a lack of specificity (increase in false positives) and include individuals who have the potential to reform and change. By aiming to predict and explain crime with a personality disorder, the personality disorder aspect erodes away, and PPD resembles more a risk factor than a personality disorder.

The current conceptualisation of PPD is not the finished product nor is it the end of its conceptual evolution, and therefore questioning its relevance must be continued. PPD does not need to do all the heavy lifting in regards to crime prediction and explanation. It is a personality disorder which should have a sole focus on personality tendencies. Therefore, the benefit of applying PPD to SAT is that it places the focus on personality characteristics in order to better understand how these relate to behaviours, rather than determining which personality characteristics predict rule-breaking behaviour and classifying it as a personality disorder. This deconstruction at an analytical level is one reason SAT is useful. It breaks down each relevant element in order to comprehend where all the pieces fit in the puzzle. Figure 6-1 displays the differences in models between PPD and SAT. It also emphasises this overlap between crime propensity and PPD by arguing that individuals with PPD are those who fall on the high end of the crime propensity spectrum.

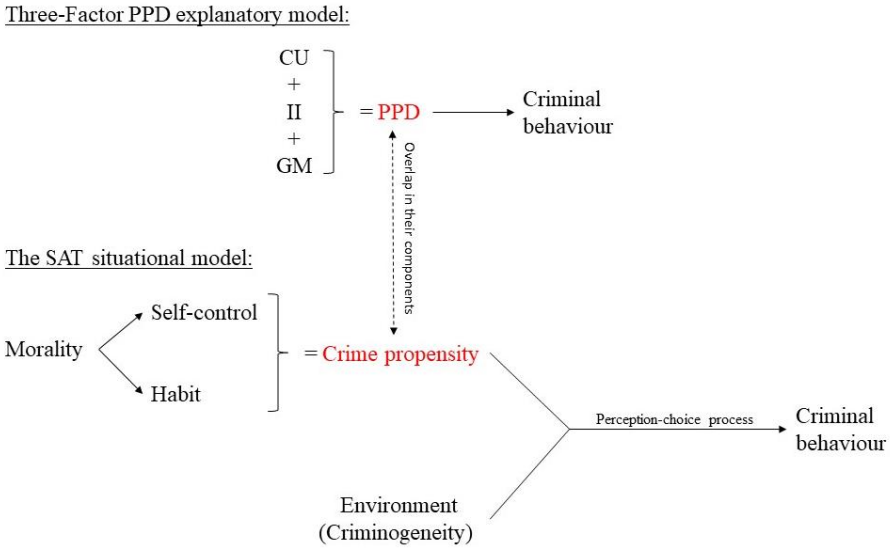

Figure 6-1: Comparison between the PPD model and the SAT model

Note. PPD= Psychopathic Personality Disorder. SAT= Situational Action Theory. CU= Callous/Unemotional. II= Impulsive/Irresponsible. GM= Grandiose/Manipulative.

It is therefore important to understand the limitations of PPD and what it should and should not be used for. The current understanding of PPD overinflates the role of personality in criminal behaviour and puts the onus entirely on the individual. SAT helps advance the concerns raised by Blackburn by viewing the role of the individual more realistically. To this end, this study has focused on integrating PPD into SAT, where the disorder can contribute to an already empirically supported understanding of crime causation. The summary of the current study is as follows.

6.2. Summary of the current research study

With PPD's integration into an SAT framework still in its infancy, this study's research questions were:

Research question 1: Is there a relationship between morality (moral rules and moral emotions) captured by Situational Action Theory and the Psychopathic Personality Disorder dimensions?

Research question 2: Can morality moderate the association between Psychopathic Personality Disorder and in-school rule-breaking behaviour?

Overarching research question: Can morality complement Psychopathic Personality Disorder to help further our understanding of its association with rule-breaking behaviour?

Since there is limited research on the integration of PPD into SAT, the focus was on understanding the personality features leading to higher rule-breaking behaviour. As SAT suggests that the initial personality feature leading to an individual's behaviour is morality, it was argued that rule-breaking behaviour will only occur in individuals with weak relevant morality, even when PPD dimensions are present or at least more prevalent. As Blackburn (1988) argues, PPD does not guarantee rule-breaking behaviour; it is only when an individual is characterised by elements in the universe of social deviance that antisocial behaviour will occur. An individual scoring high on PPD dimensions will not deterministically be drawn or motivated towards rule-breaking behaviour. Motivation and an individual's morality are separate from PPD and should be viewed/measured as such.

To test these arguments within an SAT theoretical framework, fieldwork was conducted around these ideologies. Empirical data collection was based on Year-9 pupils in secondary schools in North London, Cambridgeshire, and Hertfordshire. The aim was to examine a wide range of schools to solidify the chances of capturing the entire personality spectrum and thus increase the chances of collecting information of people who were defined as follows, as per Blackburn: 1) no personal deviance, no social deviance; 2) personal deviance, no social deviance; 3) no personal deviance, socially deviance; 4) personal deviance, social deviance. Having this full spectrum of individuals was needed, as contemporary PPD research originally focused on an offender sample, where variation in participants' social deviance levels was minimal. This larger scope would help disentangle the association between PPD dimensions and an assumed rule-breaking morality.

In total, 39 schools participated in this study. To first be considered, certain school criteria had to be met. Only schools who had a similar number of boys and girls and who had an overall student body larger than 200 pupils qualified for the study. Furthermore,

they had to be state schools with no religious ethos. Only schools with these characteristics were contacted. Since the focus was on representing each personality feature, this study was less concerned about how these recruited schools accurately reflected the regional sample, although the demographics showed they were quite representative of the area. In each school it was aimed to have 30 randomly selected pupils complete the survey. A total of 1,057 pupils completed the survey (49.5% female). All participants were randomly recruited from these schools' Year-9 enrolment list. As high PPD dimension scores are rarely seen in the public arena, this high number of participants was viewed as the most reliable way to gather data on the "full spectrum" of the disorder. To further complement this idea, two of the 39 schools were Pupil Referral Units.

Pupils filled out questionnaires on the Youth Psychopathy Trait Inventory (YPI; Andershed et al. 2002), which was developed to measure PPD traits in young people aged 13 to 18 years old. Information on pupils' thrill-seeking, irresponsibility, and impulsiveness tendencies was measured as well as their manipulation, lying, and grandiose tendencies. Furthermore, SAT measures were added to the questionnaire to gauge pupils' levels of shame, guilt, moral rules, and self-control. The final measured items were in-school rule-breaking behaviour. These consisted of disturbing a lesson, using a mobile phone during a lesson, refusing to follow a teacher's instructions, wearing an inappropriate uniform, leaving a lesson without an excuse, being verbally aggressive to another pupil or teacher, and being rude to a teacher. Pupils were asked to report how many times they had done each of these behaviours in the last month.

6.3. Primary empirical conclusions

Morality links PPD dimensions to rule-breaking behaviour: Morality is the initial personality feature linking individuals to rule-breaking behaviour according to SAT and is separate from predisposition. Theoretically, because morality is how the individual views the world and how they perceive the acceptable nature of behaviours, it falls into the universe of social deviance. Morality is measured by how one perceives an action to be right or wrong. As morality does not describe *how the individual behaves* but only how they perceive behaviours, it is separate from predispositions and personal deviance. As argued by Blackburn, an individual can be characterised by elements of both the universe of personal deviance and the universe of social deviance. However, to assume

that individuals with personal deviance who are characterised by PPD are automatically defined by social deviance is to prejudge the issue. This in turn brings about confusion, and as John Gunn (1998) argues, moves us further away from understanding the true nature of the disorder. The results in the first results chapter (Chapter 4) starts to suggest that somewhat like on a graph (displayed in Figure 6-2), high scores on PPD do not dictate an individual's morality and vice versa.

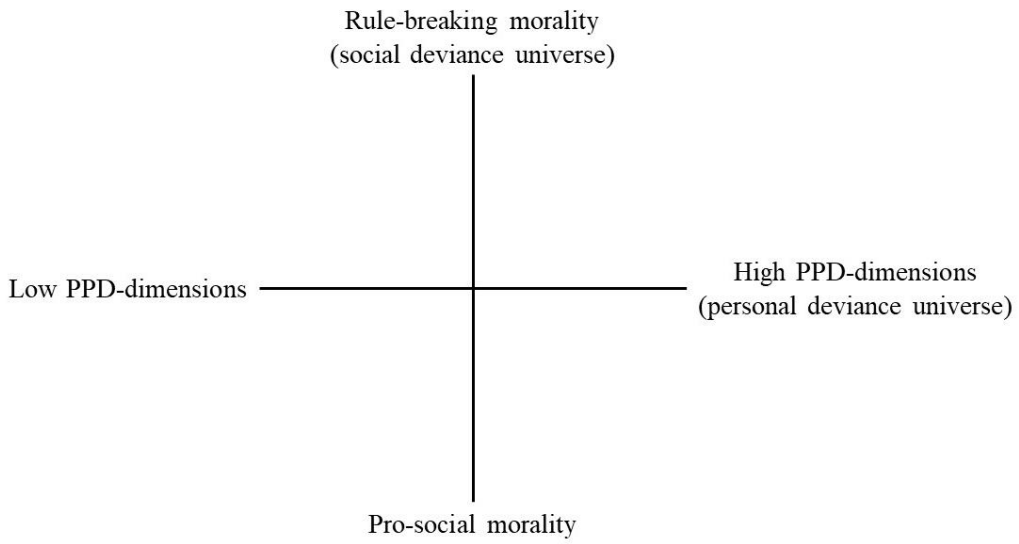

Figure 6-2: The grids characterised by two universes in which an individual can be defined.

Note. PPD= Psychopathic Personality Disorder.

Although there is a big emphasis on callous/unemotional (CU) traits in PPD research, CU traits were not included in the analysis portion of this study. This was due to the conceptual overlap between this aspect and morality, as CU traits are broken down in the YPI by Remorselessness (e.g. To feel guilty and remorseful about things you have done that have hurt people is a sign of weakness; I have the ability not to feel guilt and regret about things that I think other people would feel guilty about); Unemotionality (e.g. I don't let my feelings affect me as much as other people's feelings seem to affect them; what scares others usually doesn't scare me); and Callousness (When other people have problems, it is often their own fault, therefore, one should not help them; It's important to me not to hurt other people's feelings (reverse coded)). With these three

subscales overlapping with the SAT concept of morality (i.e. moral rules, lack of shame and lack of guilt) and the concerns raised in the first chapter of PPD presuming a rule-breaking morality, CU traits were omitted from the analysis. This omission of CU traits does not mean that these traits are irrelevant or that SAT cannot incorporate them, but that their utility and understanding should be further investigated. For the reasons argued in the first and second chapters, CU traits as currently conceptually understood are messy. As many researchers would argue that CU traits are at the core of PPD (Frick & Marsee 2018) and that CU traits distinguish a subgroup of youth at risk of developing PPD (Frick 1998; Frick et al. 2014), the emphasis of these arguments is frequently on predicting rule-breaking behaviour. This brings about the question: Are CU traits, as we currently understand them, at the core of PPD because they predict future behaviour? If so, is predicting future behaviour a justified reason to determine the core of a personality disorder? These are questions to further discuss and develop.

For this study, information on pupils' moral rules, moral emotions, PPD dimension scores and in-school rule-breaking behaviour was collected. Roughly half of the participants were females. Sex differences represent a knowledge gap that has been lacking in the PPD literature (Verona & Vitale 2018). This study therefore aimed to tackle its concerns about PPD by examining its expression in both males and females. Consequently, results were run separately by gender. In the first results chapter (Chapter 4), in determining how morality was expressed in males and females, differences were spotted. Although weak moral rules were viewed as a significant indicator of increased rule-breaking behaviour, moral emotions differed in strength of association between the sexes. For males, only lack of guilt was indicated as a predictor of rule-breaking behaviour, while for females both lack of guilt and lack of shame were predictive of the outcome, although lack of shame in females was still not as strongly associated with rule-breaking behaviour as lack of guilt. While reviewing the negative binomial results for females, those who scored the lowest levels of shame were at twice the risk to have increased rule-breaking behaviour compared to those who reported high rates of shame. For males, differing levels of shame did not alter the frequency of rule-breaking behaviour. For both sexes, lack of guilt increased the risk for rule-breaking behaviour by over 5 times (males) and 4½ times (females). This in itself is a noteworthy finding, because it suggests that males refrain from rule-breaking behaviour when an internal emotional struggle is present, but they are less affected by how others (friends, teachers,

and/or parents) view them. Females have similar levels of internal emotional struggle restraining them, but there is support showing they value how they are perceived in the eyes of others more than males, which is in turn associated with lower levels of rule-breaking behaviour. When reviewing the association between moral rules and rule-breaking behaviour, males with weak moral rules were 3½ times more at risk, while females with weak moral rules were almost 2½ times more at risk.

All three elements (moral rules, lack of guilt, and lack of shame) were combined to make a unique morality score for each individual. When reviewing morality's relationship to individual subscales of PPD, significant relationships were found throughout. In regards to the PPD-impulsive/irresponsible (II) dimension relationship with morality, irresponsibility had the strongest association, while impulsivity showed the weakest association. Finally, morality showed a stronger association with PPD-II total scores compared to the PPD-grandiose/manipulation (GM) dimension. When examining the subscales of the PPD-GM dimension, morality for both males and females had the weakest association to the grandiose subscale. Overall, all three of the PPD-GM dimensions (lying, manipulation, & grandiose) showed significant but weak association with morality.

The next step was to examine whether the association between an individual's PPD-dimensions score and rule-breaking behaviour was moderated by their morality. Although SAT argues that morality plays a key role in leading someone towards rule-breaking behaviour, it is not synonymous with rule-breaking behaviour in itself. Therefore, to understand how individuals with PPD are related to an increase in rule-breaking behaviour, their morality was added as a moderator. This analysis was run to argue against the deterministic conceptualisation of PPD, which currently links it with antisocial behaviour.

Individuals falling one standard deviation from the morality mean were grouped as being the rule-breaking morality group or the prosocial morality group. After assessing partial measurement invariance, results indicated that the relationship between PPD-dimensions was moderated by an individual's morality. Therefore, morality plays a key role in furthering our understanding of PPD's relationship with rule-breaking behaviour. Figures 6-3 to 6-5 visually display this moderation of morality between PPD and rule-breaking behaviour. These are the same as Figures 5-6 to 5-8 in the previous chapter. The

pupils who are characterised by scoring high on PPD dimensions while having prosocial morality have low rates of rule-breaking. These are important figures to note, as they aptly display Blackburn's concerns over the heterogeneity of PPD. Although his 1998 article was solely theoretical, this thesis provides empirical support of the concerns raised. This heterogeneity of individuals characterised under the PPD label needs to be addressed.

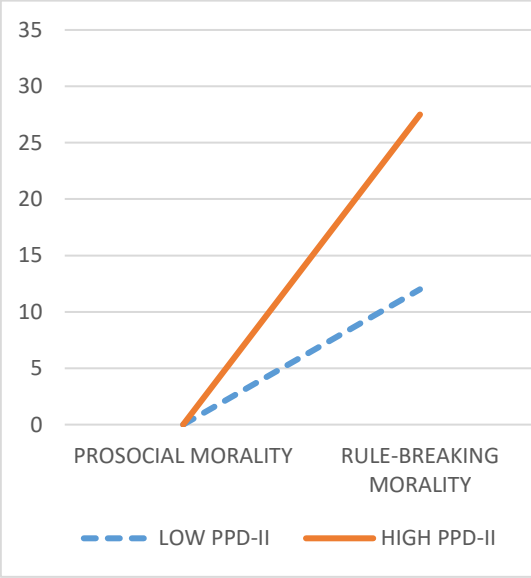

Figure 6-3: Interaction between morality and the PPD-II dimension for median frequency of rule-breaking behaviour for a month

Note. PPD-II= Psychopathic Personality Disorder – Impulsive/Irresponsible

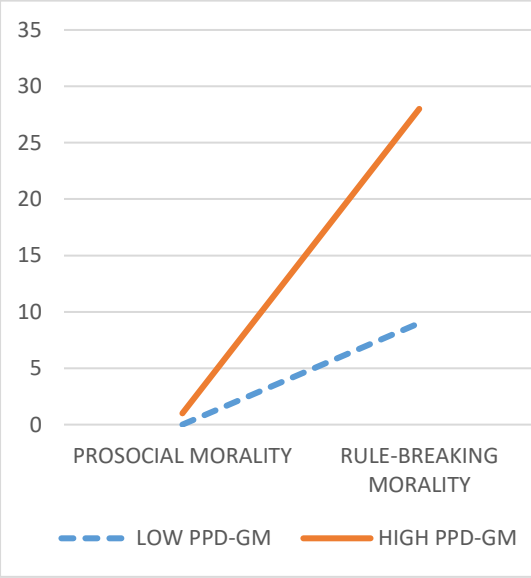

Figure 6-4: Interaction between morality and the PPD-GM dimension for median frequency of rule-breaking behaviour for a month

Note. PPD-GM= Psychopathic Personality Disorder – Grandiose/Manipulative

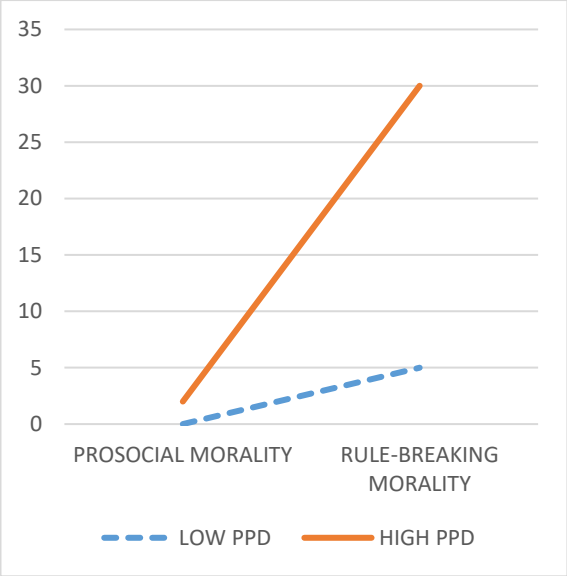

Figure 6-5: Interaction between morality and the PPD dimensions for median frequency of rule-breaking behaviour for a month

Note. PPD= Psychopathic Personality Disorder dimensions

This type of cross examination between morality and PPD has not been previously explored, leading to a gap in knowledge. These are important results to take into consideration due to the differences in rule-breaking behaviour between morality groups who score high on PPD. What these figures and the structural invariance analysis presented in the previous chapter suggest is that morality is relevant to the link between PPD and rule-breaking behaviour and that an SAT framework fits the data better than purely aggregating dimensions together to understand behaviour causation. This concept should not be overlooked. Morality plays an important role in predicting an individual's frequency of rule-breaking behaviour, particularly if the individual has high scores on the PPD-dimensions. However, a single PPD label is not a forgiving one, and although heterogeneity of individuals within this disorder exists, the conceptualisation itself is not flexible enough to acknowledge this variation. This leads to the question, is it a useful

clinical conceptualisation? Greater coherency might be found if its components were developed separately.

Moving away from predetermined and overemphasised impulsivity in PPD: SAT helps us understand the role that self-control plays in decision making in regards to rule-breaking behaviour. According to SAT, one's ability to exercise self-control (or as the PPD literature labels it, the impulsive/irresponsible dimension) is not always relevant to one's behaviours. This was broken down in Chapter 2. Morality is the initial filter in decision making, and Figure 2-4 displays this perception choice process linking one's ability to exercise self-control to rule-breaking behaviour only when deliberation occurs. As many actions are habitual, one's ability to exercise self-control is not relevant in these cases. Although the PPD literature does not use the terminology "ability to exercise self-control", the outcome is similar. In the PPD literature, this element of impulsivity is viewed as a powerful predictor towards general and violent recidivism. Though statistically significant, these elements are tied to elements of morality and antisociality in the assessment of PPD. It is unclear whether elements of this relationship are related to the actual inability to exercise self-control or whether they are tied to this notion of morality. In a prediction model, this is less of a concern, because if it predicts well, there is no concern to change. However, in regards to recidivism and targeting someone's antisocial behaviours or ideas, or understanding a personality disorder, this notion is important to question. This leads to the question: are high scores on impulsivity an indication of an individual's actual impulsivity levels or of their morality? This is displayed in Figure 6-6. Basing impulsivity off of behaviours has the potential to include behaviours affected by morality, leading to inaccurate conclusions about the importance of impulsivity in PPD.

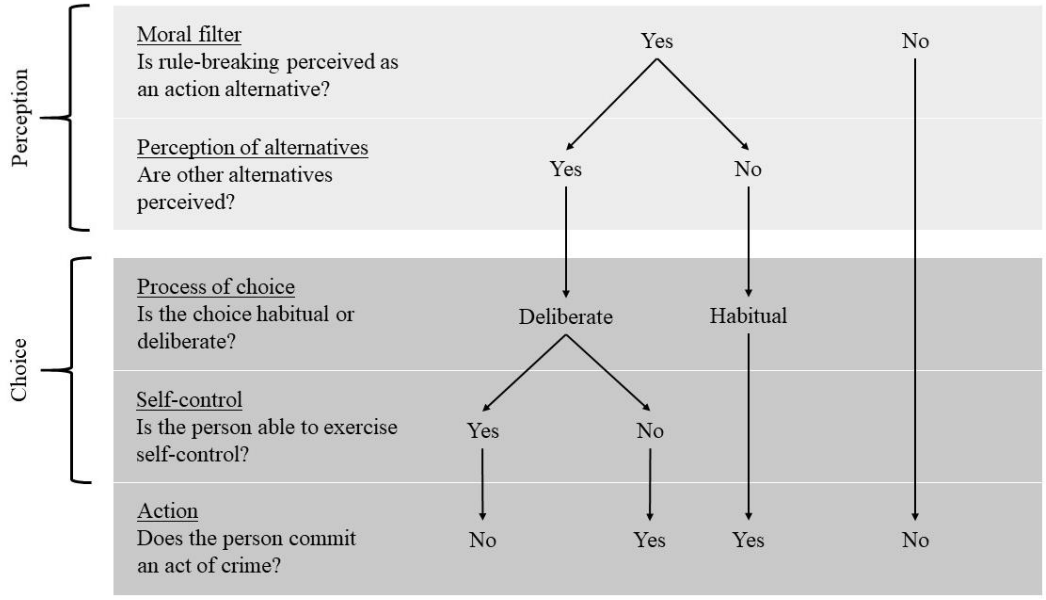

Figure 6-6: Parts of the perception-choice process explained by SAT

When focusing on the interaction between PPD-II and morality, this becomes apparent. In Figures 6-3, there is visible interaction between the two concepts in relation to in-school rule-breaking behaviour. Those with rule-breaking morality and high PPD-II scores have an increased rate of rule-breaking behaviour, while those who have pro-social morality and low PPD-II scores show the lowest rates of rule-breaking behaviour; this is the case for both males and females. Furthermore, those with high scores on PPD-II but with pro-social morality show a reduction in rates of rule-breaking behaviour. The opposite shows similar outcomes. For both males and females, those who score low on PPD-II and have rule-breaking morality also show lower levels of rule-breaking behaviour. As expected, concepts such as impulsivity and irresponsibility predict in-school rule-breaking behaviour for young people. This is nothing new, yet much of the research on this topic fails to take into consideration the implication of morality. Callous-unemotional (CU) traits are currently a major topic in the field of youth psychopathy (Frick & Marsee 2018), and research on this topic has viewed the aggregate predictability of both CU traits and impulsivity in younger people. What is lacking is a theoretical framework that merges these two concepts. Currently, psychopathy is viewed similarly to how Gottfredson and Hirschi's (1990) General Theory of Crime perceives crime. Motivated by self-interest, individuals with PPD engage in criminal behaviour in the

pursuit of pleasure or the avoidance of pain. Indeed, Gottfredson and Hirschi define crime as "acts of force or fraud undertaken in the pursuit of self-interest" (p. 15). This aspect of self-interest is ingrained in the definition of crime. In this theory, the pursuit of self-interest causes poor self-control, and consequently poor self-control causes crime involvement. However, concerns have been raised over the use of viewing self-interest as the main point of focus when understanding the causes of crime. As Wikström and Treiber (2007) argue, this aspect of self-interest (motivation to act) should be viewed separately from the act of crime. Motivation to act is better understood as an explanation for the act rather than being inherently integrated into the definition of the act itself, which is how Gottfredson and Hirschi (1990) view it. This concern about differentiating between the motivation to act and the act itself is also relevant to the concept of PPD. This is a concern that was raised in the earlier chapters. Viewing individuals with PPD as inherently motivated by antisocial interests bypasses a fundamental aspect of decision making.

This similarity between the General Theory of Crime and PPD is well documented by DeLisi (2009, 2016), who argues that the Gottfredson and Hirschi theory is a "watered down, less specified form of psychopathy" (DeLisi 2009: 2). He has also previously argued that General Theory of Crime and the emphasis on self-control is really a proxy of psychopathy (DeLisi & Vaughn 2008). He notes that "Psychopathy is a template of an actor who is prone to commit acts which hurt others" (DeLisi 2009: 3). This aspect of psychopathy as inherently antisocially motivated is not only relevant to DeLisi's work but also surfaces throughout the PPD literature (e.g. Hare & Neumann 2008). In order to fully understand the decision making process, motivation cannot be assumed. The relevance of SAT to the understanding of PPD is perhaps at its most relevant here: separating the motivation to behave from the definition. SAT does not assume that motivation to behave is inherent, nor does it assume that pursuing self-interest is the fundamental motivation for behaviour. According to SAT, individuals' motivation and antisociality is a question of morality, as individuals are rule-guided in nature. Crime is defined by SAT as "acts that breach moral rules of conduct stated in law" (Wikström et al. 2012: 12). To explain acts that break moral rules, it must be explained why people act in accordance with or breach these rules of conduct rather than assuming an individual's motivation to breach the rule of conduct. This is the reference point which the field of PPD mistakenly neglects.

This complements the first primary conclusion, which stresses that morality belongs in the universe of social deviance, while PPD should be characterised by elements of the universe of personal deviance. Not only does the assumption of an individual's morality based on a personality disorder move us away from understanding the true nature of the disorder, it also overemphasises the role of the impulsive nature of the disorder in its link to antisociality. Individuals with PPD may have a lower ability to exercise self-control; however, as it is argued in the previous chapters, this is not always relevant to antisocial behaviour. It should also be stressed that this thesis does not dispute that one's ability to exercise self-control is relevant to PPD, but rather that there is an overemphasis on this concept in decision making. To fully understand how an individual exercises impulsivity, or as SAT labels it, exercises self-control (deliberates), that individual's morality must be taken into account. This is illustrated in Chapter 2, Figure 2-4. "Because the individual does not consider the act morally wrong, there is nothing to 'control'" (Wikström & Treiber 2007: 248). As morality shifts between individuals, what may be viewed as impulsive and irresponsible to some may actually be morally justifiable to the individual in question. A change in perspective is needed, as the ability to exercise self-control does not just vary between people, it varies within individuals depending on the situation at hand. In order to further understand this variation within individuals, their morality must be acknowledged. This leads us to believe that what may be perceived as impulsive may actually be the individual's morality at work.

6.4. Theoretical conclusion based on these findings: moving away from a PPD label

Although it is common knowledge that correlation does not mean causation and prediction of criminal behaviour does not necessarily mean causation of criminal behaviour, risk factors are present in the etiological discussion of PPD. Since risk factors were methodologically developed to predict criminal behaviour, they are limited in their potential to explain criminal behaviour. From this confusion about prediction and explanation, behavioural and personality characteristics were aggregated to form a cluster of factors that lead to criminal behaviour. Consequently, as previously argued, PPD resembles more a risk assessment than a coherent personality disorder. Breaking down PPD into smaller more coherent components should be the way forward, as it

moves away from a predetermined morality and motivation of the individual. It would also be more useful and accurate to focus on relevant treatable personality characteristics. As argued by John Gunn (1998), PPD will be better understood when broken down. One crucial deconstruction needed is the separation of universes as described by Ronald Blackburn (1988). Due to this confusion, the disorder is comprised of heterogenic individuals. Consequently, it does not hold much clinical value as currently understood. This study suggests that in order to better understand the personality process, it would be beneficial to understand the components of PPD separately. Without the focus on rule-breaking behaviour, these components are not relevant to one another. There would be a better understanding of patients' needs if the umbrella term that is PPD were removed from the conversation. The emphasis should return to treatability (Gunn 1998).

6.5. Limitations of the current study

There are certain limitations that need to be addressed within this study and certain theoretical considerations to further develop. The first aspect is that in-school rule-breaking behaviour and criminal behaviour are not identical. Although similar logic and theory can potentially explain both, there is less variation between minor and severe in-school rule-breaking than between minor and severe criminal behaviour.

Furthermore, the study focuses on an adolescent sample. Although this is not necessarily a limitation, in the future these theoretical assumptions should be tested in other populations, such as in adult males and females as well as in other countries. One of the criticisms raised in Chapter 1 was this aspect of pigeonholing individuals with PPD as being motivated to display antisocial behaviour. This was a potential consequence of focusing on a specific population, and PPD research has and needs to continue to expand beyond a convenient prisoner sample to be validated.

A second limitation of this study is that the links between measurements can only be concluded as associations, and determining causation is difficult when using a cross-sectional design. Although arguably Structural Equation Modelling is developed in part to determine causal vs. non-causal associations between correlated measures, determining causality is not as simple as assessing model fit and strength of the associations (Kline 2005). This study supports the theoretical basis of SAT that rule-

breaking morality influences an individual's perception and choosing of rule-breaking behaviour, although methodologically this is difficult to ultimately conclude.

This is especially challenging when testing the decision making process. This study concludes that morality does interact with the impulsivity/irresponsible dimension, supporting the notion that both morality and impulsivity play a role in the decision making process. Although this thesis does not determine causation, with a strong theoretical framework like SAT, which has been empirically supported with these results, the conclusions drawn from this study can be seen as robust.

6.6. Concluding narrative and future directions: Are we on the right track?

As currently defined, PPD is essentially trying to be too many things at once. To realistically understand the link between personality and behaviour, a theoretical framework is needed. SAT explains how relevant personal and environmental characteristics interact to move someone to behave, and PPD can be incorporated into this. This removes the need to overemphasise personality characteristics to explain rule-breaking or criminal behaviour. This incorporation of the social context will advance how we view the different dimensions of PPD and start to reveal how these different dimensions interact with multiple criminogenic features of the environment. PPD does not need to do all the "heavy lifting" when it comes to predicting or explaining behaviour, and this notion that personality can solely predict/explain criminal behaviour or rule-breaking behaviour is outdated and unreliable. Therefore, it is timely to question the direction that the development of PPD has taken in past decades. This dual objective leads to a mix of correlates and symptoms, which causes confusion about the actual definition of the disorder. In the words of John Gunn (1998: 38), it is important to ask: "Are we on the right track?"

Although psychology's primary focus is on understanding the individual, solely concentrating on personality characteristics leads to a misguided interpretation of behaviours and their causes. However, measuring the context in which behaviours occur is a much more difficult methodological challenge to overcome compared to measuring personality characteristics. In an effort to overcome this dilemma, Wikström and colleagues (2012) developed a space-time diary which aims to capture the convergence of the individual and the setting. This takes into consideration where the individual was,

who they were with, what they were doing, and whether any substance use was in play. This is then combined with small-area community surveys and census data to produce a specific social context for each setting. This allows us to understand how individual characteristics converge and interact with specific types of criminogenic environments to move an individual to behave (see Wikström et al. 2012).

Further study on how PPD integrates into SAT is also worth pursuing, since the scope of this thesis starts and stops at an individual perspective of SAT. As PPD is focused on an individual approach, this was deemed a logical starting point for comparing and integrating the two. However, not only does SAT aim to explain the convergence of the individual and setting, it aims to uncover the social selection process of how an individual comes to be exposed to a setting and how the emergence of certain relevant characteristics develops over a lifetime. This can be viewed as a type of "zoom out" approach, starting with understanding how someone is moved to behave, in order to pinpoint the relevant social and developmental mechanisms. These mechanisms may be especially important in furthering knowledge of the development of PPD dimensions.

6.6.1. What is PPD?

There is no answer for the question "*What is psychopathy?*" Not only are we uncertain what we're "looking at", but we are equally unsure how PPD develops. Studies that aim to explain the ethology without first fully understanding the disorder's definition have the potential of becoming warped based on this dual objective. As the defining attributes of PPD are numerous and heterogeneous, it is not surprising to see it being correlated with other disorders and specific behavioural outcomes. It is still plausible that PPD is not a disorder at all and that solely because these individuals live on the periphery of societal standards they are diagnosed as having a disorder rather than the opposite, i.e. that they live on the periphery of societal standards because of their disorder. At face value, the behaviours and expression of both scenarios are similar, but only one of them has a real psychological basis and cause.

"…do psychopaths have a disorder with a dysfunction, course, prognosis, and remission, or are they simply types of people in the way that, say, liberals, musicians, attractive people, introverts, jerks, and complainers are types of people?" (Jalava, Griffiths & Maraun 2015: 119)

If individuals are labelled psychopathic because they do not live solely by social standards, then there is no need to search for a psychological etiologic or label them as having a personality disorder. This would consequently lead to a more sociological approach to understanding these individuals. However, contrarily, if they are experiencing maladaptive behaviour due to a psychological entity, then there is room in research to search for the etiology of psychopathy. Unfortunately, we are not yet able to confirm one of these scenarios. And as it is argued, some of these defining attributes are the consequence of a social network irrelevant to pathology, while others may be personal vulnerabilities. Currently, both social and personal vulnerabilities define psychopathy.

On the other hand, social deviance reflects behavioural tendencies that are specific occurrences which do not in themselves permit the inference of a tendency or behavioural tendencies that do not describe the manner or the "how" of behaving, as Blackburn (1988) argues. Asocial or antisocial are specific actions that do not describe enduring tendencies. They do not define the *how* of behaving, and they are behaviours that can only be understood within a moral context. For example, manipulation, lying, and violence are all specific behaviours that describe the manner in which the behaviour is expressed. Although an individual may persist in manipulation, lying and/or violence, this does not provide us with an accurate measurement of their personality, as a context is needed to fully understand the acts themselves. Although egocentricity might lead to an increase in lying about past accomplishments or future life projects, the lying itself does not give us the full picture without the social context, while egocentricity on the other hand is a more central aspect of a personality disorder.

The relationship between personal deviance and social deviance is another question for research. While incorporating social deviance such as antisocial and criminal behaviour into the definition of psychopathy might increase the predictability of the disorder for general and violent behaviour, it does not advance our knowledge of the etiology of the disorder, nor does it advance our ability to develop clinical interventions. And because this focus on prediction stands as a pillar of psychopathy research, the search for causation is held back. As John Gunn (1998: 36) describes: "In seeking to identify the devil in the machine, and viewing "psychopathy" as a real, invading monster, the clinical scientist is led away from understanding the patient's problems".

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Appendices

Appendix A: Participant information

Participant Information

You are being asked to participate in the School and Community Environment Survey. The aim of the survey is to explore teachers' and pupils' experiences of their school and community environment and investigate some of the individual and environmental factors that influence the way pupils behave.

The survey will take around 90 minutes to complete and questions will focus on your experiences and attitudes around different types of behaviour situations, your experience of school policy and your experiences of interactions with teachers, peers and family members. This survey can be used as an opportunity to reflect on some of your behaviours and attitudes.

CONFIDENTIALITY/ANONYMITY

This survey is completely anonymous. Once the survey is complete, all data will be anonymised and the names of individuals and schools will not be recorded.

PARTICIPANTS' RIGHTS

You may decide to stop being a part of the research study at any time without explanation. You have the right to ask that any data you have supplied to that point be withdrawn/destroyed. No penalty will be come from withdrawing from the study. You also have the right to omit or refuse to answer or respond to any question that is asked of you.

You have the right to have your questions about the research answered (unless answering these questions would interfere with the study's outcome). If you have any questions as a result of reading this information sheet, you should ask the researcher before the study begins.

1. What is the date today?

Date DD / MM / YYYY

2. By clicking continue at the bottom of this page, you are agreeing that:
1) you have read and understood the information above
2) questions about your participation in this study have been answered satisfactorily
3) you are taking part in this research study voluntarily

◯ Continue

Appendix B: Demographics

Demographics

3. How old are you?

- ◯ 13
- ◯ 14
- ◯ 15

4. What is your sex?

- ◯ Male
- ◯ Female

5. Is English an additional language to you? (Do you speak another language when you are at home with your parents or guardians?)

- ◯ Yes
- ◯ No

6. Do you receive free school meals?

- ◯ Yes
- ◯ No

7. What is your ethnicity?

- ◯ **White** - English/Welsh/Scottish/Northern Irish/British
- ◯ **White** - Irish
- ◯ **White** - Gypsy or Irish Traveller
- ◯ **White** - other
- ◯ **Mixed** - White and Black Caribbean
- ◯ **Mixed** - White and Black African
- ◯ **Mixed** - White and Asian
- ◯ **Mixed** - Other
- ◯ **Asian/Asian British** - Indian
- ◯ **Asian /Asian British** - Pakistani
- ◯ **Asian/Asian British** - Bangladeshi
- ◯ **Asian/Asian British** - Chinese
- ◯ **Asian/Asian British** -Other
- ◯ **Black/Black British** - African
- ◯ **Black/Black British** - Caribbean
- ◯ **Black/Black British** - Other
- ◯ **Arab**
- ◯ Any other ethnic group

Appendix C: Moral rules

Your opinion on different types of behaviour.

In this section you will be asked about how wrong you think different types of behaviour are.

How wrong is it for someone your age to...

8. Steal a pencil from a classmate

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

9. Skip doing homework for school

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

10. Ride a bike through a red light

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

11. Go skateboarding in a place where skateboarding is not allowed

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

12. Hit another young person who makes a rude comment

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

13. Lie, disobey or talk back to teachers

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

14. Get drunk with friends on a Friday evening

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

15. Smoke cigarettes

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

16. Skip school without an excuse

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

17. Tease a classmate because of the way he or she dresses

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

18. Smash a street light for fun

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

19. Paint graffiti on a house wall

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

20. Steal a CD from a shop

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

21. Smoke cannabis

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

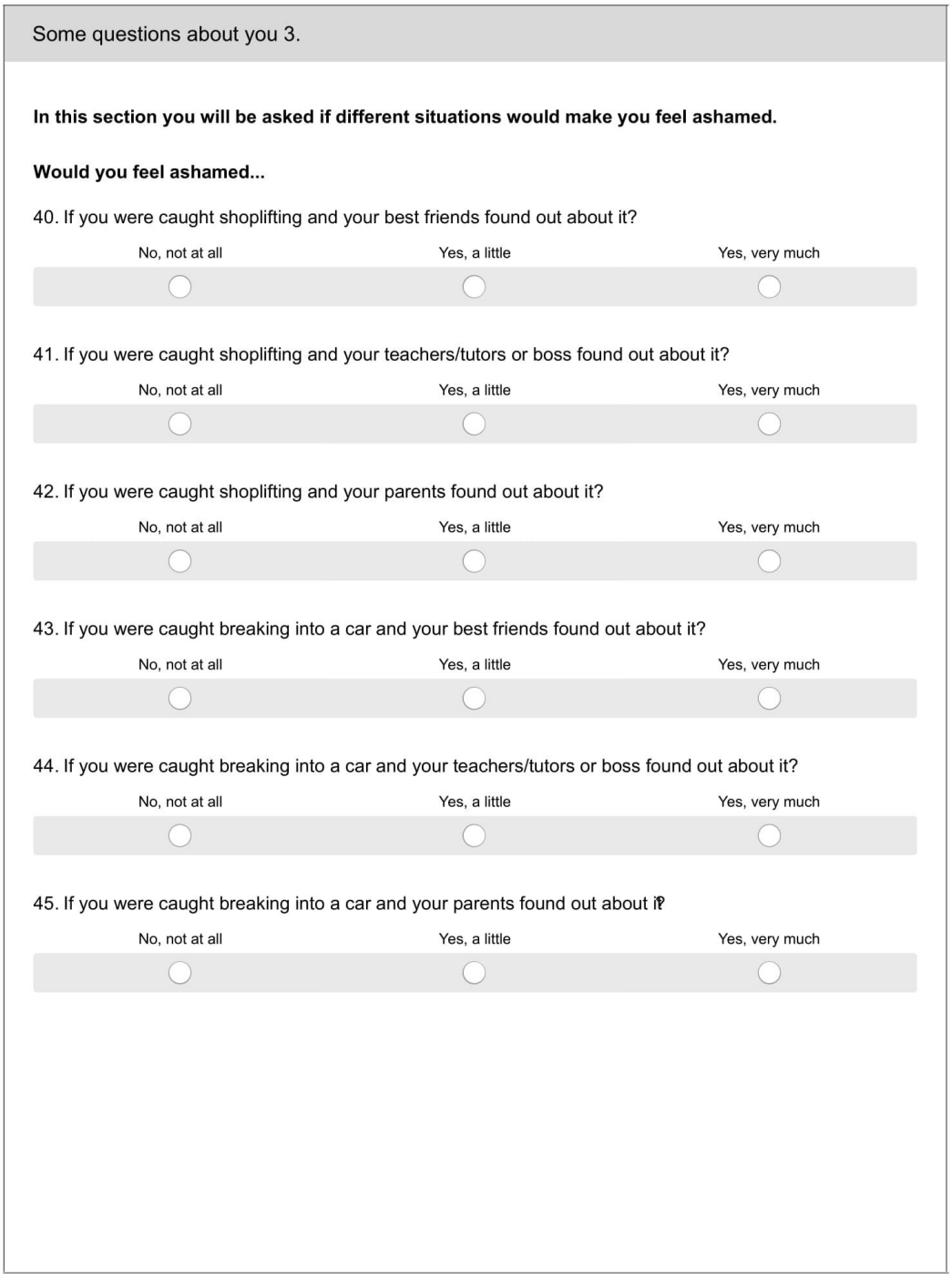
22. Break into or try to break into a building to steal something

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

23. Use a weapon or force to get money or things from another young person

Very wrong	Wrong	A little wrong	Not wrong at all
○	○	○	○

Appendix D: Lack of shame



Some questions about you 3.

In this section you will be asked if different situations would make you feel ashamed.

Would you feel ashamed...

40. If you were caught shoplifting and your best friends found out about it?

No, not at all	Yes, a little	Yes, very much
○	○	○

41. If you were caught shoplifting and your teachers/tutors or boss found out about it?

No, not at all	Yes, a little	Yes, very much
○	○	○

42. If you were caught shoplifting and your parents found out about it?

No, not at all	Yes, a little	Yes, very much
○	○	○

43. If you were caught breaking into a car and your best friends found out about it?

No, not at all	Yes, a little	Yes, very much
○	○	○

44. If you were caught breaking into a car and your teachers/tutors or boss found out about it?

No, not at all	Yes, a little	Yes, very much
○	○	○

45. If you were caught breaking into a car and your parents found out about it?

No, not at all	Yes, a little	Yes, very much
○	○	○

Appendix E: Lack of guilt

Some questions about you 4.

In this section, you will be asked if different situations would make you feel guilty.

Would you feel guilty...

46. If you did something your parents (guardians) have told you absolutely not to do?

No, not at all	Yes, a little	Yes, very much
○	○	○

47. If you cheated on a test?

No, not at all	Yes, a little	Yes, very much
○	○	○

48. If you teased another workmate/colleague so he or she started to cry?

No, not at all	Yes, a little	Yes, very much
○	○	○

49. If you stole something from a shop?

No, not at all	Yes, a little	Yes, very much
○	○	○

50. If you hit another classmate who made a rude remark to you?

No, not at all	Yes, a little	Yes, very much
○	○	○

51. If you broke into a car and stole something?

No, not at all	Yes, a little	Yes, very much
○	○	○

Appendix F: YPI items

OFFICIAL School and Community Environment Survey - Pupils

Some questions about you 8.

In this section you will be asked about how well certain statements apply to you (describe you).

Do the following statements apply to you?

76. You like to be where exciting things happen.

Not at all	Not well	Fairly well	Very well
○	○	○	○

77. You like to do things just for the thrill of it.

Not at all	Not well	Fairly well	Very well
○	○	○	○

78. You like to do exciting and dangerous things, even if it is forbidden or illegal.

Not at all	Not well	Fairly well	Very well
○	○	○	○

79. You get bored quickly by doing the same thing over and over.

Not at all	Not well	Fairly well	Very well
○	○	○	○

80. You get bored quickly when there is too little change.

Not at all	Not well	Fairly well	Very well
○	○	○	○

OFFICIAL School and Community Environment Survey - Pupils

Some questions about you 9.

In this section you will be asked about how well certain statements apply to you (describe you).

Do the following statements apply to you?

81. You are good at getting people to believe you when you make something up.

Not at all	Not well	Fairly well	Very well
○	○	○	○

82. To get people to do what you want, you often find it efficient to trick them.

Not at all	Not well	Fairly well	Very well
○	○	○	○

83. You can make people believe almost anything.

Not at all	Not well	Fairly well	Very well
○	○	○	○

84. It has happened that you've tricked someone in order to get what you want.

Not at all	Not well	Fairly well	Very well
○	○	○	○

85. It's easy for you to manipulate people.

Not at all	Not well	Fairly well	Very well
○	○	○	○

86. Sometimes you find yourself lying without any particular reason.

Not at all	Not well	Fairly well	Very well
○	○	○	○

87. Sometimes you lie for fun.

Not at all	Not well	Fairly well	Very well
○	○	○	○

88. You've often gotten into trouble because you've lied too much

Not at all	Not well	Fairly well	Very well
○	○	○	○

89. You like to exaggerate when you explain something.

Not at all	Not well	Fairly well	Very well
○	○	○	○

90. It's fun to make up stories and try to get people to believe them.

Not at all	Not well	Fairly well	Very well
○	○	○	○

91. You're better than everyone at almost everything.

Not at all	Not well	Fairly well	Very well
○	○	○	○

92. You're more important and valuable than other people.

Not at all	Not well	Fairly well	Very well
○	○	○	○

93. You're destined to become a well-known, important and influential person.

Not at all	Not well	Fairly well	Very well
○	○	○	○

94. You have talents that go far beyond other people's

Not at all	Not well	Fairly well	Very well
○	○	○	○

95. The world would be a better place if you were in charge.

Not at all	Not well	Fairly well	Very well
○	○	○	○

101. You prefer to spend your money right away rather than save it.

Not at all	Not well	Fairly well	Very well
○	○	○	○

102. If you get the chance to do something fun, you do it no matter what you had been doing before.

Not at all	Not well	Fairly well	Very well
○	○	○	○

103. It often happens that you do things without thinking ahead.

Not at all	Not well	Fairly well	Very well
○	○	○	○

104. It often happens that you talk first and think later.

Not at all	Not well	Fairly well	Very well
○	○	○	○

105. You consider yourself as a pretty impulsive person.

Not at all	Not well	Fairly well	Very well
○	○	○	○

106. You have probably skipped school more than most other people.

Not at all	Not well	Fairly well	Very well
○	○	○	○

107. You often don't have your school assignments done on time.

Not at all	Not well	Fairly well	Very well
○	○	○	○

108. If you won a lot of money in the lottery you would quit school and just do things that are fun.

Not at all	Not well	Fairly well	Very well
○	○	○	○

109. You have often been late to classes.

Not at all	Not well	Fairly well	Very well
○	○	○	○

110. It has happened several times that you've borrowed something and then lost it.

Not at all	Not well	Fairly well	Very well
○	○	○	○

Appendix G: In-school rule-breaking behaviour

Your Behaviour On School Property

In this section you will ask about the number of times you have engaged in different types of behaviour when you are at school.

At school, how many times have you...

144. Disrupted a lesson to the point when a teacher has had to stop teaching to speak to you

in the last month?

in the last 12 months?

145. Worn an inappropriate uniform

in the last month?

in the last 12 months?

146. Truanted or left a lesson without permission

in the last month?

in the last 12 months?

147. Been verbally aggressive or threatened another pupil

in the last month?

in the last 12 months?

148. Pushed or barged another pupil

in the last month?

in the last 12 months?

149. Been rude to a teacher

in the last month?

in the last 12 months?

150. Been verbally aggressive or threatened a teacher

in the last month?

in the last 12 months?

Appendix H: Debriefing

Finished! Thank you for your time

Thank you for participating in the 'University of Cambridge Schools and Community Environment Survey'.

If you have any concerns about any aspect of the study, you should contact us (Simon Larmour – srl47@cam.ac.uk & Liam McSharry - ljpm2@cam.ac.uk). We will do our best to answer your questions. If you still have concerns, you may also contact Professor Lawrence Sherman, Head of the Department, on 01223 335369. The study is covered by the University's Public Liability and Professional Indemnity insurance policies.